

Bovis
Bovis Construction Limited
the ingenious builder
Telephone: 01-422 3488

SURVEYORS VALUERS AND AUCTIONEERS OF REAL ESTATE

Healey & Baker
01-629 9292

CONTINENTAL BELLING PRICES: AUSTRIA Sch 16; BELGIUM Fr 25; DENMARK Kr 4.25; FRANCE Fr 4; GERMANY DM 2.0; ITALY L 700; NETHERLANDS Fl 2.0; NORWAY Kr 4.25; PORTUGAL Esc 35; SPAIN Ptas 60; SWEDEN Kr 3.75; SWITZERLAND Fr 2.0; EIRE 20p

NEWS SUMMARY

GENERAL BUSINESS

Zambia link to coast is cut

The raid, which has not been officially acknowledged in Salisbury, came despite all-party agreement on pre-independence arrangements at the Lancaster House conference, which allowed delegates to begin talks on a ceasefire in the guerrilla war.

Rhodesian Premier Bishop Abel Muzorewa returned from the conference to Salisbury yesterday to be greeted by a crowd of 30,000 at the airport. He left armed forces commander Gen. Peter Walls to continue the ceasefire negotiations in London. Back Page

TUC row feared if Rolls is hived off

NATIONAL ENTERPRISE Board's links with Rolls-Royce could spark a major confrontation between Government and TUC. The Chancellor, the Industry Secretary and the Employment Secretary have had talks with Mr. Len Murray, TUC general secretary, to discuss problems that would arise if Rolls were removed from the NER. Back Page.

Few taxpayers saved their October rebates

According to the latest FT survey on consumer confidence, about 44 per cent spent them, 13 per cent saved them and 35 per cent said they had not yet received a rebate. The survey also shows confidence falling lower than last winter. Page 6.

Economic growth in main industrial countries next year will be very small, and inflation is expected to stay in double figures, stockbrokers Philips and Drew predict.

Page 4

Civil engineering companies are receiving fewer orders than six and 12 months ago, an industry survey shows.

Page 6

The French franc ended the week at the top of the European Monetary System league-table for the first time.

Eurofranc and domestic interest rates eased slightly after Paris call money touched a five-year high of 12 1/2 per cent last Monday. The Danish krone and Italian lira came second equal, with the lira aided by expectation of a rise in the Bank of Italy's discount rate soon. The Danish currency may lose its status as a prime creditworthy borrower. If there is no economic improvement soon, Belgian franc was under no heavy pressure, but remained the weakest EMS currency. Page 2.

Ulster devolution

Northern Ireland Secretary Humphrey Atkins is expected to put his consultative document on devolution policy in Ulster before Parliament tomorrow. It is understood to contain about six proposals for discussion at a conference on Northern Ireland planned in December. Back Page

2 die in shooting

Two women were killed and at least eight people were injured when a gunman opened fire on spectators at an international cross country run in Belgium. A man, reported to be a patient at an Antwerp psychiatric hospital, was arrested.

Ripper apology

The Yorkshire Ripper apologised for murdering 16-year-old Jayne MacDonald, his sixth victim, in one of the three letters released by West Yorkshire police as part of the £1m publicity campaign to catch the killer.

Mother killed

Mrs. Monica Aigbe, 28, was stabbed to death in front of her eight-month-old baby 75 yards from her home in Hackney, East London.

Evacuation delay

Israel Government backed away from confrontation this week with Jewish settlers at Eilon Moreh on the occupied West Bank by putting off their evacuation for another six weeks, and ordering that only a small portion of land be vacated.

BBC attacked

Environment Secretary Michael Heseltine attacked the BBC for some of its reporting of Government spending plans. He criticised in particular coverage of the protest by Lameth council in south London against the Government's policy.

Briefly...

Pakistan is to get food aid worth £2.5m from the UN World Food Programme under an agreement to provide for Afghan refugees. Two lifeboats capsized as they went to the aid of a stricken coaster off the Outer Hebrides. Crews of both vessels escaped with slight injuries.

CONTENTS

Kissinger: Memoirs of a lone ranger ... 19
West Midlands: A mood of determined optimism ... 18
Management: Singer tries again to restructure ... 15
Editorial Comment: NATO; Public sector limits ... 18

Lombard: Samuel Brittan on UK economic forecasts ... 16
Surveys: Electronic Components ... Inset
Italian Banking ... 25-30

Arts ... 17
Agriculture ... 17
Base Rates ... 20
Building Notes ... 20
Businessman's Day ... 23
UK Company News ... 20
Crossword ... 18
Entertainment Gde. ... 24
Economics ... 24
Financial Diary ... 24
Insurance ... 17

Int. Co. News ... 32
Labour News ... 17
Leader Page ... 17
Letters ... 19
Technical Page ... 17
Today's Events ... 19
TV and Radio ... 16
UK News ... 5, 8, 2
Unit Trusts ... 25
Weather ... 26
World Econ. Ind. ... 3
World Trade ... 3

Racing ... 26
Share Information ... 16
Sport ... 17
Technical Page ... 17
Today's Events ... 19
TV and Radio ... 16
UK News ... 5, 8, 2
Unit Trusts ... 25
Weather ... 26
World Econ. Ind. ... 3
World Trade ... 3

Leaders prepare for Common Market summit

Bonn favours 40% cut in UK share of EEC budget

By Jonathan Carr in Bonn

West Germany is ready to accept a package deal at the Common Market summit in Dublin next week under which Britain's net contribution to the EEC budget next year would be cut by about 40 per cent.

The Bonn Government recognises that it would have to foot nearly half the additional bill which would result for other EEC members from such a reduction. But it is willing to do so to help avoid the Community crisis it feels would be bonded to follow failure in Dublin on November 29 and 30.

In addition to direct action on the budget, Bonn thinks the package should include a commitment to curb surplus production in the EEC milk sector—a further concession to Britain's view—and probably, to Community action which would help protect French sheep farmers.

The Germans hope these elements could bring compromise between what Bonn sees as the two poles in the dispute—Britain which is seeking a "broad balance" in its EEC budgetary position, and France which feels Britain should gain little, if anything.

Bonn is therefore pressing behind the scenes for a package along these lines. But senior West German Government sources insist that they have not taken on a broker's role between Paris and London. They show irritation at what they see as British inflexibility so far—and make clear that they do not intend to jeopardise Franco-German relations on Britain's behalf.

U.S. hostages may face 'spy' trials

Giscard sees Mrs. Thatcher today

By Simon Henderson in Tehran

THE CONFRONTATION between the U.S. and Iran took a grave turn yesterday as the Ayatollah Khomeini warned that most of the 70 hostages held in the U.S. Embassy in Tehran would be tried for espionage unless his demand for the extradition of the Shah was met.

The threat was confirmed by the leader of the Iranian revolution and de facto head of state in an interview with U.S. television networks after the students conducting the siege of the embassy had said that the women and blacks among the hostages would be freed but that the rest would be tried.

Confusion over the nature of decision-making in Iran since the resignation of Mr. Mehdi Bazargan as Prime Minister on November 6 was highlighted by conflicting statements about oil payments.

Mr. Abol Hassan Bani Sadr, the radical whom Ayatollah has given responsibility for foreign and financial affairs, has said again that Iran would not accept dollars.

Asked about a comment by Mr. Ali Akbar Moinefar, Minister of Oil, that he had not ordered such a move, he replied: "I decide and not Mr. Moinefar."

He added that he would not contact Mr. Moinefar until the next meeting of the Revolutionary Council "to clarify the situation."

Ayatollah Khomeini has approved the demands of the country's Kurds for a greater measure of autonomy, according to Mr. Hashma Sabaghian, the former Minister of the Interior, who resigned last week but has continued to carry on the negotiations with the dissident minority's leaders.

David Beachan adds from Washington: U.S. officials yesterday privately expressed sharp concern about the latest move in the crisis over the U.S. hostages. But the State Department refused all public comment about the possibility of "spy trials."

Freeing women and blacks was taken to be a move aimed at mollifying U.S. public opinion, which nonetheless has united to a remarkable degree behind the Government's strong stand.

Ministers alarmed at level of pay settlements

More Britons to cross Atlantic than Americans

By John Elliott and Christian Tyler

MINISTERS ARE alarmed at the level of pay settlements, which are much higher than they hoped for in this first winter for five years free of a direct wage restraint policy.

Their fears will be echoed this week by Sir John Methven, director-general of the Confederation of British Industry, who will tell his monthly council meeting on Wednesday that pay rises this winter are likely to outstrip the levels of the last wage round and exceed 16 per cent.

He will issue a warning that high claims ranging from 20 to 35 per cent are leading to a considerable number of settlements at about 15 to 20 per cent, helping to fuel inflation at a time when companies' finances are coming increasing under pressure.

But in spite of growing speculation among some trade union leaders that Government intervention possibly starting with a freeze is inevitable, Ministers believe it would be disastrous to change course.

They want time for the effects of tight monetary policy to "educate" trade unions in the employment consequences of high pay demands.

This is in line with the CBI's view: the confederation does not want the Government to change its approach to economic problems or to introduce any formal pay policy. Instead, it wants ministers to help increase public understanding of the country's economic problems and to try, during a major meeting of the National Economic Development Council early next month, to start a dialogue with trade union leaders.

Mrs. Margaret Thatcher promised a conference of conservative trade unionists at the weekend that there would be no "U-turns." And Mr. James Prior, Employment Secretary, said it would be wrong for the Government to panic because of a few high settlements, which he said were becoming "crazy."

Ministerial alarm was evident after a week in which the miners rejected 20 per cent, Merchant Navy seamen accepted 24 per cent, farm workers secured 19 per cent and Ford Motor manual workers expected to reach about 20 per cent after an initial 16 per cent offer on Friday.

Nevertheless the December NEDC meeting which will bring Ministers, the TUC and the CBI together, is unlikely to produce any Government initiative.

More Britons to cross Atlantic than Americans

Banque Belge Limited

By Arthur Sandles in Los Angeles

MORE BRITONS may visit the U.S. next year than Americans visiting Britain, according to the latest travel industry forecasts. If this happens it will be the first time British traffic has topped American since the 1920s.

More than 1m Britons have visited the U.S. this year, a rise of over 40 per cent from last year. This, plus the sharp decline

in the U.S. visits to Britain, has considerable implications for the British hotel industry and Britain's balance of payments. Already UK hotel results are showing the impact of the American downturn.

But British travel agents are out in force in Los Angeles for their annual convention to discuss their possible goldmine of growth.

Study to be made into 'alarming increase' in maritime fraud

Study to be made into 'alarming increase' in maritime fraud

By William Hall

A STUDY of the "alarming increase" in maritime fraud is being undertaken by the Inter-Governmental Maritime Consultative Organisation, the United Nations maritime agency, as a matter of "priority."

Mr. C. P. Srivastava, IMCO secretary-general, said in London that piracy—fraud by the master or crew of a ship—and the unlawful seizure of the ships and their cargoes had now become a "fairly major problem."

Speaking at the end of IMCO's eleventh biennial assembly he said that the study was one of two steps the agency was taking to try to combat the recent rapid rise in maritime fraud.

Banque Belge Limited

Subsidiary of Belgium's largest bank, Société Générale de Banque / Generale Bankmaatschappij

Over 70 years of activity in the City of London have brought recognition as a bank of personal service and truly international capability.

4 Bishopsgate London EC2
Tel.: 01-283 1080

OVERSEAS NEWS

Begin ducks settlement row

BY DAVID LENNON IN TEL AVIV

THE ISRAELI Government, headed by Mr. Menachem Begin, yesterday backed away from a confrontation with the Jewish settlers at Elon Moreh on the occupied West Bank of the Jordan by putting off evacuation of the site for another six weeks.

The Israeli Supreme Court ordered that the land on which the settlement was built in June should be handed back to its Arab owners by Thursday. But the Government, fearful of a violent clash with the settlers who have refused to move, decided that only a small portion of the land would be vacated this week.

The Supreme Court ruled last month after hearing an appeal by some of the Arab farmers whose land was taken for the settlement. The court said that the seizure of the hilltop near Nablus was illegal. It ordered that the land be returned to the appellants within 30 days.

Since then the Government has been trying to find ways to avoid a clash with the militant settlers, members of the ultra-nationalist Gush Emunim movement. At the weekend it came up with a new formula, to evacuate now only the land of the farmers who appealed, leaving the evacuation of the rest of the land for up to another six weeks.

The land to be vacated, 31 acres out of the 175 acres requisitioned from Arab farmers, is dispersed throughout the site. But the settlers say none of their houses are on those particular plots of land, so they have no objection to their being returned to the owners.

The settlers again stressed their determination last night not to quit the rest of the site. They were clearly pleased with the Cabinet decision, and the result of their continuous rejection of attempts to persuade them to move. They appear confident that the Government will now pass special legislation or find some other legalistic way to enable them to remain where they are.

Mr. Elias Khoury, a lawyer who represents the Arab farmers, said last night that he was considering appealing to the Supreme Court to ensure that the rest of the land was vacated. Meanwhile, protests continue in the occupied territories over the plan to deport Mr. Bassam Shaka, Mayor of Nablus, who is accused of looting against the occupation.

Sit-down strikes were held in some towns and general strikes in others. Attempts by children to demonstrate were quickly quelled by Israeli troops who have been very evident in the territory since Mr. Shaka's arrest a week ago. The military authorities yesterday enforced their new policy of preventing mayors from the various towns from gathering together.

Mr. Mohamed Muhem, Mayor of Hebron, was prevented from joining the Mayor and councilors of nearby Hebron on the West Bank, in their sit-down strike, and when he tried to join another sit-down strike in Arab east Jerusalem he was prevented from entering the city. Protests have spread to Israel. Two Israelis started a hunger strike yesterday outside the Prime Minister's office in solidarity with the hunger strike of Mr. Shaka. Protests were also held in Israeli Arab villages and one of them was addressed by Mr. Shaka's wife.

Elected on Saturday by unanimous vote of the National Congress, Mrs. Gneiler, a 53-year-old accountant, pledged to end the bloodshed caused by the military coup which ousted the elected President, Sr. Walter Guevara Arza.

In an address from the palace balcony, she told a crowd of several thousand: "The coups have ended in Bolivia. There will be no more repression, no more vengeance. The country must now march towards a shining future."

Mrs. Gneiler's appointment followed five days of tough negotiations between military leaders and politicians, seeking some compromise solution to the leadership crisis.

Reuter

Reuter

Reuter

Hurvitz explains budget plans

BY L. DANIEL IN TEL AVIV

THE PRINCIPLES on which he proposes to base his budget for the financial year starting next April were explained to the Israeli Cabinet yesterday by the new Finance Minister, Mr. Yizal Hurvitz.

He envisages a cutback in all fields of activity except agriculture, industry and housing construction. All development projects are to be frozen forthwith except for those nearing completion. No starts are to be made on new hospitals, schools or social institutions, so as to reduce Government investment.

The overall budget is to be pruned by up to 5 per cent and a similar cut will be imposed on all institutions receiving Government help, such as local authorities, universities, and sick funds. Only bodies which curtail the number of their employees will continue to receive Government aid.

All Government credit is to be linked in full to the cost of living index except for agricultural and industrial production and other branches earning foreign currency.

Meanwhile Mr. Yitzhak Modai, Minister for Energy has proposed a 37 per cent rise in electricity tariffs but this has not yet been approved because of its effect on production costs.

The Minister is due in Cairo later this week to negotiate the exact price to be paid by Israel for 2m tonnes of oil to be supplied by Egypt to Israel each year.

With the hand-over to Egypt of the Alma oilfield on the Gulf of Suez only a week away, a number of other details are still unresolved.

Reuter

Reuter

Reuter

Reuter

Reuter

U.S. aid for Bolivia resumed

WASHINGTON—The U.S. yesterday promised to resume foreign aid to Bolivia following the congressional election of Mrs. Lidia Gueiler as interim President.

A State Department spokesman said the U.S. welcomed the return of constitutional government in Bolivia and said aid, which was suspended after a military coup on November 1, would be resumed.

Mrs. Gneiler, Bolivia's first woman President, called leading politicians to the presidential palace in La Paz, yesterday for talks aimed at setting up a new civilian Cabinet.

Elected on Saturday by unanimous vote of the National Congress, Mrs. Gneiler, a 53-year-old accountant, pledged to end the bloodshed caused by the military coup which ousted the elected President, Sr. Walter Guevara Arza.

In an address from the palace balcony, she told a crowd of several thousand: "The coups have ended in Bolivia. There will be no more repression, no more vengeance. The country must now march towards a shining future."

Mrs. Gneiler's appointment followed five days of tough negotiations between military leaders and politicians, seeking some compromise solution to the leadership crisis.

Reuter

Reuter

Reuter

Reuter

Reuter

Reuter

Reuter

Reuter

Reuter

Reuter

Reuter

Barre seeks a confidence vote on 1980 finance Bill

BY ROBERT MAUTHNER IN PARIS

FRANCE'S Prime Minister, M. Raymond Barre, has asked the National Assembly for a vote of confidence on the 1980 budget Bill following failure to reach a compromise on Gaullist demands for big cuts in public expenditure.

In theory, the constitutional procedure adopted by M. Barre could lead to the Government's downfall. But this has been ruled out in practice by the contradictory stand taken by the Gaullist RPR Party, one of the two main coalition partners.

Under the French Constitution, the Government can ask for a vote of confidence on a Bill which can then only be defeated if a censure motion is carried by an absolute majority of the National Assembly.

Though censure motions will be tabled by both the Socialist and Communist opposition parties tomorrow, they stand no chance of being adopted because the Gaullists have announced that they will abstain.

It is clear that the Gaullists' decision is motivated by the fear that a Government defeat might persuade President Giscard d'Estaing to dissolve Parliament and call a general election.

If public opinion polls are to be believed, the Gaullists would have their parliamentary strength reduced if an election were held now.

Their main objective in opposing the budget, has been to show disapproval of M. Barre's economic policies and thus to underline their own identity. There can be little doubt that this tactic has been adopted with an eye on the next presidential election, due in 1981, when M. Jacques Chirac, the Gaullist leader, is expected to run against President Giscard.

In a long speech to the National Assembly on Saturday, M. Barre attacked the Gaullists for their obstructive manoeuvres. He suggested that their demands for cuts were no more than a pretext for weakening the Government.

The Prime Minister also lashed out at his predecessor, M. Chirac, who had accused him of spending more time criticising previous governments than getting his own policies right.

M. Barre said: "When I took office, I did not have time to criticise my predecessors, given the number of things which I had to do, undo and re-do."



Raymond Barre is challenged by the Gaullists

strength reduced if an election were held now.

Their main objective in

Kuwait worried by the Carter freeze

BY OUR FOREIGN STAFF

KUWAIT has officially expressed apprehension about President Carter's decision to freeze Iranian assets deposited and invested in U.S. institutions.

The Kuwaitis have described the measure as "an extremely dangerous precedent."

Speaking after a Cabinet meeting, Mr. Abdul-Aziz Hussain, Minister of State, said: "The decision has raised grave concern about the future of international financial relations, thus exposing the world economy to unforeseeable dangers."

Kuwait is believed to have at least \$5bn worth of assets in the U.S. in the form of bank deposits, U.S. Treasury bonds, equity portfolios and real estate out of the state's total reserves of over \$30bn.

From our point of view the step is an extremely important precedent which widens the definition of national interest and leaves the door wide open for individual interpretation," Mr. Hussain said. "Kuwait does not sanction such a freeze and warns against its consequences."

Shakir Ahmed Zaki Yamani, Saudi Minister of Oil, said in Jordan at the weekend that he hoped the U.S. action against Iran would not set a precedent. However, he did not expect the blocking of Iran's assets or the interruption in supplies of its oil to the U.S. to affect the overall oil supply situation.

Any move on the part of the Organisation of Petroleum Exporting Countries to use a basket of currencies for calculating oil prices would be aimed only at easing the impact of currency fluctuations and would have nothing to do with the freeze on Iranian assets.

In Washington, meanwhile, a study prepared by the U.S. Library of Congress has predicted that Iran's financial requirements are likely to prevent it from reducing oil exports to the lower level wanted by some of the country's leaders. It argued that despite drastic budget cuts Iran would still need to sell at the rate of 3.3m barrels a day.

Reuter

Reuter

Reuter

Reuter

Reuter

Reuter

Reuter

Reuter

Reuter

Reuter

Reuter

Reuter

Reuter

Reuter

Reuter

Reuter

Reuter

Reuter

Reuter

Reuter

Reuter

Who needs another credit card?

British Airways think you do.

With so many credit cards around, the last thing you want to hear about is yet another. But British Airways Visa Card, an extension of British Airways worldwide services, is designed specially to make travelling easier.

How can a British Airways Visa Card take more care of you?

You can use British Airways Visa Card in over 130 countries to buy tickets, petrol, pay hotel and restaurant bills, for shopping, foreign currency and at Travel Agents.

Plus free Travel Accident Insurance when the card is used to pay for fares or car hire.

It offers all the world-wide acceptability of the International Visa System and even sports the familiar blue, white and gold livery.

There's also a Company Card available that's invaluable for expense account control when you're on company business.

Naturally, credit limits will reflect the needs of the international traveller. So not everyone will qualify for this card.

How can it take care of cash?

You can use your card to obtain a cash advance of up to £100 a day through all banks displaying the Visa sign worldwide.

In an emergency, on the production of your passport and ticket, British Airways will accept your card as identification in cashing your cheques up to £50 in local currency (subject to local currency regulations and cash availability), at any British Airways Airport or Town office anywhere in the world.



How can it take care of hotels?

As a cardholder you will receive details of special offers - British Airways concession vouchers for selected British Airways Associate Hotels in key situations all over the world, for example, plus bargain holidays.

All in all, a British Airways Visa Card takes more care of you because it takes more care of everything.

The British Airways Visa Card is issued and owned by Barclays Bank Limited.

For further information complete and return the coupon below.

To: British Airways Visa Card, Dept. MU 73, Barclaycard Centre, Northampton, NN1 1SG. (Tel: (0604) 21100).

Please send me details of the British Airways Visa Card Visa Company Card (Tick as required). Available to UK residents only.

Name: _____

Address: _____

British airways VISA Takes more care of everything. FT19/11

Ceausescu to urge higher productivity on Romania

BY ANTHONY ROBINSON, EAST EUROPE CORRESPONDENT

PRESIDENT Nicolae Ceausescu today opens the 12th Congress of the Romanian Communist Party which is due to outline another five years of high investment and selective economic growth.

Higher productivity plus energy savings and the development of domestic energy sources and nuclear energy will be the top priorities for the next five-year plan starting in 1981.

But some concessions will be made to consumers who have shown increasing signs of discontent after years of sacrifices.

The congress has been preceded by considerable diplomatic activity. Over the last three months President Ceausescu has played host to the West German, Italian and Chinese Foreign Ministers as well as to Marshal Tito of Yugoslavia and the French Socialist Party leader, M. Francois Mitterrand.

Romania's independent foreign policy, marked by a refusal to increase military spending as demanded by the Warsaw pact summit last year,

its observer status in the non-aligned movement and open disagreement with the Soviet Union is expected to be underlined in President Ceausescu's opening speech.

The Chinese Communist Party is sending a delegation led by Mr. U Lan-fe, a member of the Politburo. And the Soviet Party is sending a delegation led by the Politburo veteran Mr. Arvi Beishe.

Other Communist parties are sending low-key delegations as the only Euro-Communist part to send a top-level delegation is the Spanish Party led by its secretary, Sr Santiago Carrillo.

Obvious sensitivity to criticism of the cult of personality around Mr. Ceausescu has resulted in a less ostentatious display of portraits of the Romanian leader for this congress, although the streets of Bucharest are bedecked with flags.

FINANCIAL TIMES, published six days a week, except Sundays and holidays. U.K. subscription rates £265.00 per annum. Second class postage paid at New York, N.Y. and at additional mailing offices.

Bid to step up business between Mexico and Brazil

BY DIANA SMITH IN BRASILIA

MEXICO will sell 20,000 barrels a day of oil to Brazil next year, about 2 per cent of its total oil exports for the year. In future, however, sales are likely to increase as part of an overall design to develop trade, industrial, technological and political relations between the two countries.

The visit to Brasilia last week of Sr. Jorge Castaneda, the Mexican Foreign Minister, and simultaneous inaugurations of the first Mexican-Brazilian Commission on Trade, Science and Technology have been treated as events of particular importance.

Sr. Castaneda's talks with his Brazilian counterpart included discussions on industrial co-operation, formation of joint ventures and complementary investments in the Latin American area.

and Mexico can complement each other industrially and technically will determine the rate of future oil supplies, Sr. Castaneda indicated. "Within our limits, I am sure we can increase supplies," he said.

The Brazilian Government is gravely worried about medium-term oil supplies, since Iran is its third largest supplier. It is attempting to restructure its oil purchasing system, turning to non-Middle East producers like Mexico, Nigeria and Venezuela. The Venezuelan and Nigerian authorities have recently agreed to increase sales, respectively, to 50,000 barrels a day and 40,000 b/d next year, from the current 28,000 and 23,000 b/d.

● Brazil has offered to build oil search platforms for use in Chile's southern waters and to provide Chile with technology to build equipment for crude oil refineries and liquid gas plants. Reuter reports from Santiago.

The proposal was raised at a meeting between Sr. Mauricio Albaranga, production head at Petrobras, the Brazilian state oil company, and Sr. Carlos Quinones, Chile's Mining Minister. Sr. Quinones was told the platforms could use either Brazilian or Chilean technology and would be able to operate in waters up to 150 metres deep.

Sr. Albaranga said Chile was ready to undertake a complete search of its deeper waters, while Brazil was prepared to buy a larger quantity of liquid gas than ENAP, the Chilean state oil company, now provides, provided the price was reasonable.

Two-way trade was only \$103.4m in 1978, with a \$24m balance in Brazil's favour. The intention is to reach exchanges of \$500m within the near future.

Expressing disappointment at the meagre results of 20 years of efforts by developing countries to achieve a new economic order, Sr. Castaneda said: "Now, we are turning to one another using our own resources and seeking complementary action."

"We can join forces and press industrialised countries to make decisions that do not adversely affect our interests and that take our decisive role into account."

The degree to which Brazil

Trade deficit widens

● MEXICO CITY—Due to a leap in the value of oil, Mexico's merchandise exports in the first nine months of 1979 rose 47 per cent from the year before, but imports also jumped, causing Mexico's trade deficit to widen.

Banco de Mexico, the central bank, reported that exports climbed to \$5.92bn (£2.3bn) from \$4.03bn a year earlier. The value of oil exports soared to \$2.48bn from \$1.15bn. Oil accounted for 42 per cent of all merchandise exports, up from

a 29 per cent share a year earlier. Excepting oil, there was a 2 per cent decline in exports. Imports jumped 43 per cent to \$6.21bn from \$4.73bn. Imports of capital goods were \$3.13bn, up 53 per cent from the 1978 period.

The central bank also said that Mexico's merchandise exports to the U.S. during the first nine months of 1979 rose 42 per cent to \$4.01bn. Imports from the U.S. rose 53 per cent to \$5.01bn.

AP-DJ

Canadians tipped for Australian satellite

By Patricia Newby in Canberra

THE AUSTRALIAN Government has decided to use a Canadian Hermes satellite in a test to gauge the effects of heavy rainfall of the satellite transmission of television programmes.

The decision to use the older-type Canadian equipment in the test is seen as giving Canada the edge in the bidding for the supply of the space component of an A\$150m (£79m) domestic communications satellite system, which Australia hopes to launch by 1984.

The space segment of the project consists of three satellites, two of which will be put into orbit and a third to be used as a spare.

The Government is expected to advertise abroad in the next few weeks for expressions of interest in the space segment. It is widely felt here that if the Canadian Hermes tests prove successful, Canada will be in an advantageous position.

The Canadians are particularly anxious to supply Australia with its modern Anik C satellite.

Australia has decided to proceed with a domestic satellite programme in an effort to improve communications with the more remote regions of the continent.

● Australia's exports to India rose by nearly 40 per cent in 1978-79 over the previous year, an increase of nearly U.S.\$49m, AP-DJ reports from New Delhi. From \$54m in 1977-78, Australian exports, which include wool and coking coal, jumped to about \$133m last year. Mr. Mahesh Prasad, joint secretary in the Commerce Ministry said following three days of Indo-Australian trade talks. Imports from India rose from \$108m to \$125m worth, an increase of 16 per cent.

Nuclear review threatens U.S. sales

BY DAVID BUCHAN IN WASHINGTON

THERE IS now a serious question whether the U.S. Nuclear Regulatory Commission will license the sale of reactors abroad until it completes its safety review at home in the wake of the Three Mile Island accident.

This is of sharp concern to big U.S. nuclear contractors like Westinghouse and General Electric, who fear a further licensing delay will lose them markets to foreign competitors.

In particular, the Philippines might invite Framatome, the French concern, to finish off the reactor there, which Westinghouse still lacks a U.S. licence to complete.

The NRC has, in fact, announced no temporary ban on reactor licences. The agency has been near totally preoccupied in trying to quell the public uproar over the Three Mile Island accident. But it says it will not grant any domestic reactor licences until next spring.

Agency chairman Mr. Joseph Hendrie, said his agency will

need several months—perhaps a year—to absorb technical lessons from Three Mile Island and digest criticism that the NRC has been too lax and complacent on reactor safety.

Some NRC staff officials believe it would be illogical for the agency to license reactor exports while refusing licences at home.

The backlog of pending reactor export licences is much smaller than of licence applications at home. The present tally is some half-dozen for three countries—the Philippines, South Korea and Spain.

South Korea is worried about getting its U.S. reactors. But it is the controversial Westinghouse plant in the Philippines that has raised the issue of whether the U.S.—out of concern for stringent nuclear safety—is going to squeeze itself out of the world reactor market.

Westinghouse's Philippine deal, agreed in 1976, has been a long-running saga. Westinghouse finally cleared the first

burden in getting a U.S. licence for the reactor when the State Department ruled on September 28 that its export did not conflict with non-proliferation goals.

But two things have happened. President Marcos of the Philippines said he wants the pressurised water reactor (like the Three Mile Island one) which he was buying from Westinghouse to be made safer.

Westinghouse countered by saying it would incorporate any extra safety features, up to the highest level demanded by the NRC in the U.S. But of course it would cost the Philippines more.

Secondly, two environmental groups have petitioned the NRC to consider the health and environmental objections to the plant. (The State Department has the first say in granting a reactor licence, the NRC the second say, after which it can only be overruled by President Carter.)

The NRC has taken these petitions as a catalyst for it to

decide in general terms whether or not it has the jurisdiction to pronounce what is good or safe for foreigners as well as Americans. It is now wrangling with the problem.

If it decides it is not the guardian of foreigners' nuclear health and safety, then the NRC is likely to continue issuing reactor export licences, no matter how protracted its review of domestic nuclear safety in the U.S. turns out to be.

The NRC may, however, decide there are good grounds for it to be concerned about environmental factors, but a Westinghouse executive complained last week that this would amount to Uncle Sam playing "big brother," and many governments would find this unacceptable.

President Marcos is happy with the plant site, though not totally with the Westinghouse reactor, and has indicated he would not be averse to a company, like Framatome finishing the job.

GATT delays decision on safeguards measures

BY BRIJ KHANDARIA IN GENEVA

THE DECISION-TAKING Council of GATT—the General Agreement on Tariffs and Trade—has postponed until next Thursday discussion of a major dispute between developing and industrialised countries.

This includes the crucial safeguard measures to limit imports of particular products when they cause or threaten to cause serious injury to domestic industry on which no agreement has so far been reached within the Tokyo Round.

The argument has been further complicated by fears among the smaller industrialised countries in Europe that they will have no recourse

against import curbs imposed by their larger colleagues.

Separate negotiations will continue in small informal groups to pave the way for next Thursday's discussion.

In a separate move the GATT council has set up an investigation panel to study a complaint by Canada against Japanese tariffs on leather imports. Japan has imposed strict curbs since World War II on certain leather imports to protect its backward leather workers, who must be given special support under Japanese legislation.

The Canadian complaint is similar to one lodged by the U.S. earlier this year.

Britain to ease export credits cover for Sudan

BY JAMES BUXTON

BRITAIN'S Export Credits Guarantee Department is expected to relax the terms of its insurance cover for exports to Sudan following last week's agreement in Paris on a major rescheduling of Sudan's overdue debt.

As payments from Sudan have fallen more and more into arrears ECGD has restricted its cover to trade financed outside the country and to a limited amount of routine imports. But when the rescheduling programme comes into effect ECGD should be able to resume cover on more relaxed terms, a spokesman said.

Representatives of 12 OECD countries in the Club of Paris, a grouping of export credit agencies, last week agreed with Sudan to recommend to their governments that they carry out a "major" rescheduling of Sudan's official and officially insured overdue debt.

It was agreed that Sudan would repay the debt over a seven-year period.

The total amount of Sudan's overdue debt of all kinds, including short term debt of under one year, was put by the International Monetary Fund at just over \$1.1bn.

SHIPPING REPORT

Dry cargo rates more settled after last week's increase

BY WILLIAM HALL

AFTER THE dramatic rate increases of the previous week, activity in the dry cargo market was less spectacular last week, although the underlying tone remains firm.

Having touched \$47.50 in the first week of this month the Gulf/China rate for 25,000-tonners carrying grain has settled down at around \$43-\$44 per ton. This is still over a fifth above the going rate at the end of last month and Denholm Coates reports that Chinese charters should continue to be active to the middle of next year.

The U.S. Gulf/Japan rate has also strengthened and the rate for 30,000-ton grain cargoes, at \$29 per ton, is about \$1 per ton above last month's peak.

In the Atlantic grain trade Galbraith Wrightson report

that rates for larger size tonnage (50,000-tonners) on the U.S. Gulf/Holland run have risen another 25 U.S. cents to \$19 per ton.

In the raw material sector of the market, rates have continued to drift higher. The coal trade has been busy and the rate for Hampton Roads—Japan, for a 50,000 tonner, has been close to \$20 per ton—double the rate of 12 months ago.

Iron ore charters are also coming under pressure to move the balance of the contracts prior to the year's end.

Last week, a 355,000-ton cargo of iron ore from Tubarao in Brazil to Taranto, in Italy, was arranged at \$7.50 per ton.

With the U.S. Great Lakes season nearly finished, Galbraith Wrightson report that time charter rates have probably peaked for the time being in the

Atlantic. Period business beyond one year remains pretty rare.

In the tanker markets the main talking point and activity has been at a pretty low level. The U.S. ban on Iranian oil imports has meant that tankers which had been operating on the U.S.-Iran run are now seeking other loading terminals in the Gulf.

This has led to a weaker trend in the market and the going rate for very large crude carriers Arabian Gulf-West, has dipped below Worldscale 50 to Worldscale 47-48. But over the longer term, the feeling is that the disruption of Iranian supplies should not adversely affect the tanker market since the same volume of oil still has to be shipped around the world.

\$75bn needed for world's new ships

BY OUR SHIPPING CORRESPONDENT

OVER the next five years the world's shipping companies will have to spend \$75bn on replacing ships delivered in the early 1970s.

In an analysis of the Future Financial Needs of World Shipping, Oceanic Finance Corporation estimates that in 1979 \$9.9bn will be spent on new ships and says that it is "unlikely" that the expenditure in the early 1980s will fall below \$15bn per annum. The report assumes that 80 per cent of the investment will be financed by debt, but shipping companies will have to contribute between \$2bn and \$3bn of their own equity.

Between 1970 and 1978 Oceanic estimates that \$120bn was spent on new ships for the world shipping fleet (excluding Eastern Bloc investment) and \$24bn has been financed from the shipping companies' own equity resources. Some \$46bn has been spent on tankers, \$26.3bn on general cargo ships, \$12.1bn on bulk carriers, \$12.3bn on container ships and \$9.4bn on combination carriers. The report states that the

world shipping industry is "considerably over-indebted and desperately short of equity capital." It adds that over the past five years there have been numerous financial collapses among shipowners and shipping companies.

"The cost of transporting goods of all kinds by sea, be it

wet or dry bulk, or all manner of consumer goods, is today unrealistically low and must increase across the board if shipping companies are to be able to continue to provide the service to world trade, other than with Government ownership or with substantial Government subsidies."

World Economic Indicators

		WORLD ECONOMIC INDICATORS			
		UNEMPLOYMENT			
		Oct. 79	Sept. 79	Aug. 79	Oct. 78
UK	000's	1,282.0	1,264.0	1,264.7	1,360.0
	%	5.3	5.2	5.2	5.7
Holland	000's	207.4	212.6	218.0	208.2
	%	5.0	5.1	5.1	5.1
U.S.	000's	6,182.0	5,985.0	6,149.0	5,900.0
	%	6.0	5.8	6.0	5.8
Germany	000's	761.7	736.8	798.8	901.6
	%	3.3	3.2	3.5	3.9
		Sept. 79	Aug. 79	July 79	Sept. 78
Belgium	000's	287.2	287.7	276.3	268.6
	%	7.2	7.2	6.9	6.7
France	000's	1,355.2	1,405.9	1,403.5	1,284.0
	%	5.9	6.1	6.1	5.5
		July 79	Apr. 79	Jan. 79	July 78
Italy	000's	1,880.0	1,580.0	1,632.0	1,658.0
	%	9.1	7.8	8.1	8.1

BANK OF SCOTLAND

Base Rate

The Bank of Scotland intimates that, as from 19th November, 1979 and until further notice, its Base Rate will be increased from 14% per annum to 17% per annum.

LONDON OFFICES—DEPOSITS

The rate of interest on sums lodged for a minimum period of 7 days will be 15% also with effect from 19th November 1979

PHILIPS Business Equipment

STOP WASTE.

A good old-fashioned reason for choosing the world's most advanced word processor

The paper wasted in revising and correcting documents and correspondence is bad enough.

But think of the wasted time each day's wastepaper basket represents and today, more than ever, time is money.

You're having a successful blitz in your office?

Congratulations, but you'll have to reset your targets, or you'll still be in a waste situation compared with what can be achieved in office cost efficiency using the Philips P5002 Word Processor.

Because this is not just another word processor from another manufacturer jumping onto the bandwagon.

Quite simply it's the fastest and most efficient machine of its kind in the world; capable of doing quite a number of useful functions the others haven't learnt yet.

Furthermore, it's a product of Philips vast research and development programmes which make a habit of setting the pace in electronic engineering.

The P5002 not only types at 500 words a minute, but makes it easy to get words and format "spot-on" before pressing the button

for the print-out to begin. Then the P5002 does its own filing and its own retrieval when asked.

Yet it's so simple to use, the average secretary can learn to operate it competently with only a few days' training.

It will take your secretary only a couple of minutes to complete and post the coupon which will bring you details of all the ways the Philips P5002 can make your office more cost effective in handling documents and correspondence.

Your concern for office efficiency means you're probably using Philips dictation and transcription equipment already. If not, a tick on the coupon, will bring you details of that, too.

Simply years ahead.

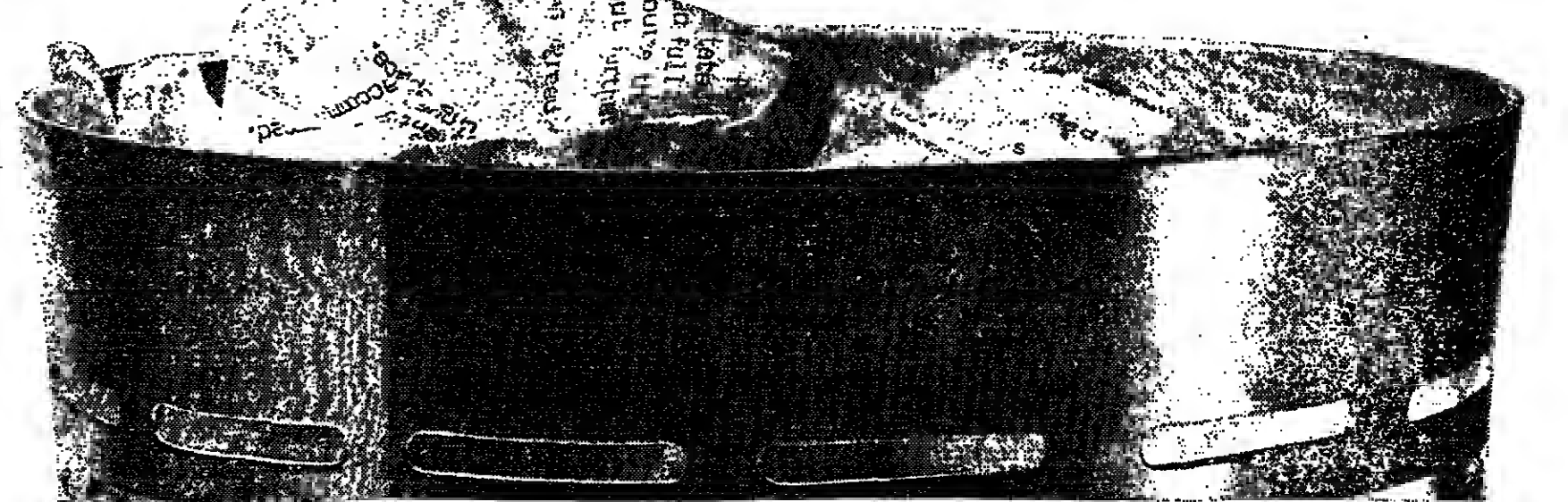
Please send more information about: Philips Word Processors Philips Dictation Equipment

Name

Address

Tel:

To: Philips Business Equipment, Arundel Great Court, 8 Arundel Street, London WC2R 3DT. Telephone: 01-836 4360.



UK NEWS

Exploration licences may be restricted

By Ray Dafter, Energy Editor

THE GOVERNMENT is expected to announce details of a new round of offshore exploration licences within the next week. But there are likely to be fewer blocks to be awarded than many in the oil industry had hoped.

Mr. David Howell, Energy Secretary, has apparently resisted industry pressure for a large and wide-ranging seventh round of licences. There are thought to be two main reasons for this.

First, it is felt in the Energy Department that the industry still has much exploration and appraisal work to do on blocks issued in previous licence rounds—particularly the sixth. It is also questioned whether the drilling rig market would have enough spare capacity to meet a big rise in demand.

Second, the Government is still working on a depletion policy for the UK Continental Shelf. It may be concerned that a rush of exploration and development could result in a production level in the mid-1980s considerably above the rate of domestic consumption.

It has been said in Whitehall that, if there were fears that output in the 1980s looked like dropping below consumption levels, it was open to Government to issue another batch of licences in the near future. But it could be more than a

Sun group steps up North Sea oil search

By Ray Dafter, Energy Editor

SUN, THE U.S. based energy group, has designated the North Sea and other areas for its major international oil exploration in the next five to ten years.

Mr. Theodore Burtis, the group's chairman, said in London that Sunmark Exploration Company—the exploration arm of Sun—recently completed an extensive review of the geological basins of the North Sea and the North West European continental shelf. It concluded that the area had "significant potential for future oil and gas discovery."

Subsidiaries

The group hopes to be involved in drilling activity through its subsidiaries, North Sea Sun Oil, Norsk Sun Oil, and Irish Sun Oil. The UK company says it is planning to bid for concessions in the seventh round of offshore exploration licences expected soon. It has already told the Energy Department which areas it would like to see offered to companies.

There have been signs that the Government will favour UK-based companies, particularly as the influence of the State-owned British National Oil Corporation is being reduced. Consequently, Sun is strengthening its North Sea consortium to include 50 per cent British participation for the seventh round bidding.

Existing Sun partners are Clyde Petroleum, Hampton Gold Mining Areas, Hautpas (a subsidiary of Bowater) and North Sea Exploration and Research (a subsidiary of Union Rheinische Braunkohlen Kraftstoff).

Partners

Mr. Burtis said the Sun group in the UK would soon start drilling a second well on block 16/21a, north-east of Aberdeen and close to the Andrew field.

This well, to be drilled by the semi-submersible rig Pacesetter 1, would be sunk north-east of the first successful well on the block to determine if sufficient reserves and production potential warranted development.

Wells on other offshore prospects were planned for 1980.

Labour hedges over compensation for renationalisation

By Elinor Goodman, Lobby Staff

SHADOW MINISTERS will be deliberately ambivalent this week about the policy approved by this year's Labour Party conference on the renationalisation of State assets sold by the Government.

In the Commons debate beginning today on Government plans to sell shares in the aviation and aerospace industries, the Opposition will emphasise that Labour policy to take back into public ownership those companies sold by the Conservatives. They will warn that nobody will be allowed to make excessive profits from renationalisation.

But they will not present the conference commitment to renationalisation without compensation as hard and fast party policy. Nationalisation has always been one of the most central and emotive issues in Labour policy. The importance of this year's debate has been heightened by its being interpreted by some sections of the Parliamentary Labour Party as a test of the extent to which the Shadow Cabinet will feel bound by the conference decisions in the light of the way conference has tried to impinge on the authority of MPs in other areas.

The debates on aviation and aerospace will bring to a head an argument which has been simmering in the party's industry committees since MPs returned to Westminster. Moderates have been arguing that, in practice, it would be impossible for a Labour Govern-

ment to re-acquire shares without some form of compensation. They say that to do so would amount to confiscation—which has never been party policy, and which would inevitably hurt workers as well as speculators.

Some left-wingers argued, however, that the Shadow Cabinet had a duty to reflect the views of the conference and that the conference had quite clearly voted in favour of renationalisation without compensation. A compromise was worked out at last week's meeting of the Parliamentary Labour Party using the national executive's decision to set up a working party on nationalisation as an excuse for getting both sides off the hook.

At the meeting, Mr. Eric Rieffer, a member of the executive, pointed out that the NEC had itself acknowledged the practical problems involved in renationalisation without compensation, and had recommended that a committee should be set up to study them.

Until this committee had reported, it was agreed, shadow ministers should not commit the Opposition beyond saying that shareholders would not be allowed to make excessive capital gains through renationalisation. In this way, the PLP avoided a vote which could well have resulted in Labour MPs asking the shadow cabinet to ignore the expressed wishes of conference.

Growth GNP 'will be small'

By David Marsh

THE MAIN industrial countries are expected to achieve practically no economic growth in 1980, although consumer price inflation is likely to remain in double figures for most of the year, according to an international preview by stockbrokers Phillips and Drew.

Real gross national product among the 24 nations in the Organisation for Economic Co-operation and Development is forecast to grow by only 0.5 per cent, after a 3 per cent increase this year. OECD consumer price rises are not expected to moderate, and will average about 10 per cent next year.

Higher prices, or reduced supplies, of oil, as well as competitive interest rate increases among the major countries, are likely to depress output. Apart from Japan, however, international short-term interest rates are thought to be close to their cyclical peak, although a turning point may not be imminent.

Real GNP is likely to fall by 1.2 per cent next year in the U.S. and 1.5 per cent in Britain. Elsewhere, output growth will be low but positive, although only Japan, of the major countries, will achieve growth of more than 3 per cent, and only West Germany and Australia of more than 2 per cent.

Government plan makes gilt-edged prospects 'bullish'

By Peter Aiddell, Economics Correspondent

THE GOVERNMENT'S monetary measures last Thursday have bullish implications for gilt-edged prices and interest rates over the next year, according to a batch of new stockbrokers' circulars published at the weekend.

Brokers, L. Messel say present yields provide an excellent buying opportunity. James and Cruickshank describe the prospects for gilts as bullish though they do not believe that the "bull market proper" will start until February. Panmure Gordon and Co. take a similar view.

These comments are in line with the strong demand for gilt-edged stock at the end of last week after the Government's measures were announced. Funding of £1bn was tied up and an £800m 1985 stock is being offered for sale by tender on Thursday.

The common theme in the brokers' circulars is that bank lending to the private sector should ease from the late winter onwards and that this should permit lower interest rates.

Laing and Cruickshank argue that the demand for credit would in any case have fallen from next February so the measure should be seen as reinforcing the recessionary forces already at work.

On this view, the measures are aimed at ensuring monetary

stabilisation for the rest of the fiscal year. For this reason Minimum Lending Rate is likely to be held at 17 per cent until February. But it may be cut then and from May reaching 10 per cent by the end of next year.

L. Messel says the measures had the "cautiously conservative" intention of restricting the financial targets envisaged in the June Budget.

"The only sense in which Government policy has become more restrictive is that the Chancellor has refused to accommodate the deterioration in the inflation outlook caused by excessive loan demand, big pay claims and the latest rise in oil prices."

The firm regards this "as clearly encouraging in the long run and we reiterate our view that the coming recession will lead to much lower inflation and interest rates."

Panmure Gordon and Co. believe the measures should ensure that the remaining funding of Government borrowing in 1979-80 will be comfortably achieved. The brokers suggest that the action will accelerate and deepen the recession in early 1980.

"Appalling inflation prospects imply a tightening of real personal incomes which will in turn reduce recent credit pressures despite the absence of new consumer credit restrictions."

National Savings rise

NET NEW RECEIPTS from National Savings last month totalled £47.9m or £12.7m after crude interest.

The figures for the October were swelled by a net increase of £30m into the National Savings Bank investment account, the highest intake for this account so far this year. The interest paid on the NSB account was increased to 12.1 per cent in September. This will soon rise a further 2½ per cent to 15 per cent following the Government's measures last week.

Also announced last week was a 19th issue National Savings Certificate. This is particularly timely in view of dwindling sales of the 18th issue. The 19th

issue will return an overall compound interest rate of 10.53 per cent a year tax free, compared with the 8.45 per cent on the 18th issue.

In October sales of the 18th issue totalling £33.99m only just exceeded repayments of £33.4m.

The National Savings Certificate retirement issue continued its good performance this year, showing a net increase of £16.8m.

Premium savings bond receipts of £11.6m showed an improvement on recent months, but with repayments remaining at a high level only a small net increase was recorded.

Sacked chairman starts claim for damages

By Gareth Griffiths, Labour Staff

MR. DENYS RANDOLPH has started a High Court action against Wilkinson Match claiming damages for alleged wrongful dismissal. He was sacked as chairman of the consumer products group in September.

Mr. Randolph said a writ may be served today. He had no intention of relinquishing his non-executive directorship of Wilkinson. He was voted out of the chairmanship two months ago after turning down a £210,000 offer to leave the board.

At the time, Mr. Randolph said he refused the offer because he did not want to be blamed for what he saw as the deteriorating financial position of the company.

Sir Richard Powell, the former deputy chairman of the group replaced Mr. Randolph as chairman. Since then, Mr. Brian Taylor, managing director of Wilkinson's safety and protection division, has left the company because of disagreements on policy.

Problems mar Sunday Times relaunch

By Gareth Griffiths, Labour Staff

THE SUNDAY TIMES, republished yesterday after nearly a year's absence, lost 300,000 copies from its planned 1,550,000 printing run due to a combination of production and distribution problems.

A spokesman for Times Newspapers said there had not been any labour difficulties with the relaunch and all the unions had co-operated in an attempt to overcome the technical problems. They arose because machinery, unused for 11 months,

had had only one or two dummy runs.

About 20,000 copies of the paper were not distributed because of a continuing dispute in W. H. Smith's warehouse in Peckham involving members of the Society of Graphical and Allied Trades. The men want extra payments for handling both The Times and The Sunday Times in South London.

There were distribution problems in the North because of railway work around Carlisle and its copies were sold on Merseyside.

General distribution problems led to shortages in pockets throughout the country.

The management said the company was confident the problems would be overcome by next Sunday. It apologised to readers, advertisers and retailers for causing them disappointment at not being able to obtain the relaunch issue.

A leading article said the paper's suspension for so long had been a "disaster" but the justification must lie in the future with better service to its readership.

HP ends the distributed processing compromise.

With Hewlett-Packard, you can put the right computers in the right places, right now. Without compromising your future networking needs.

That's the advantage of HP computers. Whether you need stand-alone machines or global networks, you can choose from a wide range of function, price/performance and system personality to match the computer to the job. And you'll be protecting your investment in the future as well as solving your immediate computing problems. Because if your growth plan calls for it, you can hook HP computers together in a network that extends across your plant, or around the world.

Working the way you work.

For general purpose computing, manufacturing administration or automation in the factory and lab, HP computers are extremely

flexible and easy to use. Some models, for example, have special keys right on the console to guide the user step-by-step through his job. And program development is done on-line, so that new and modified programs are up and running in a lot less time.

Need yesterday's production figures right away? HP's powerful data base management system (available on each of the HP computers) includes an enquiry language that lets you generate useful business and manufacturing reports with just a few simple keystrokes.

There are also specialised HP applications packages that can give your materials manager direct control of his inventory and order planning, or let him set up a factory data collection system—without any computer experience. And HP's family of engineering and scientific computer products provides the tools you need for sophisticated computation, measurement and testing jobs.

Here today. Here tomorrow.

Whenever your company is ready for it, HP's proven Distributed Systems Network software gives you a choice of communications links between HP computers and with your IBM mainframe. You can easily change the structure of your network too, and establish new links as your business requirements grow.

Find out how HP's computer systems can make distributed processing work for your company. Just send us the coupon, or contact your nearest Hewlett-Packard office.

HEWLETT  PACKARD

Winnish, Wokingham, Berkshire RG4 5AR. Tel: Wokingham 786774.

Distributed Data Processing

To: Hewlett-Packard Ltd, King Street Lane, Wokingham, Berkshire RG4 5AR.

Please send me details on:

- Distributed Data Processing
- HP 250
- HP 300
- HP 3000
- HP 1000

Name _____
 Position _____
 Company _____
 Address _____

 Postcode _____
 Tel. No. _____ Ext. _____

CSFT19/11



HP 250 The HP 250 is a powerful small business computer that has an adjustable video screen with eight programmable "soft keys" to make the user feel right at home. Priced from £13,750* the HP 250 can support five terminals and even act as a terminal for the HP 3000.



HP 300 The HP 300 business computer is specially designed to handle specific departmental jobs like inventory control, marketing data or customer files. Priced from £23,500*, the HP 300 can accommodate 16 users from an innovative display console that simplifies operating and programming the system.



HP 3000 The HP 3000 Family is Hewlett-Packard's most powerful range of computers and uses MPE-III, a multi-programming, multi-user operating system. Series 30—a new addition to the Family—can support up to 32 terminals and is priced from only £27,700*. Series 33 also supports up to 32 terminals and is priced from £34,000* while the Series III (Pictured above) supports up to 64 terminals and starts at £62,000*.



HP 1000 The HP 1000 Systems Family consists of five upward-compatible models (from £12,250* to £60,000*) designed to meet the diverse needs of the engineering and manufacturing environments. All use HP's powerful RTE operating systems and the HP-IB interface bus lets you process and control data from over 200 technical instruments.

*Prices on ex-manufacturer basis, plus postage.

UK NEWS

Retailers call for consumer laws overhaul

By DAVID CHURCHILL, CONSUMER AFFAIRS CORRESPONDENT

AN OVERHAUL of all consumer protection legislation will be demanded this morning by Mr. Richard Weir, director of the Retail Consortium, which represents more than 90 per cent of Britain's retailers.

British Airways to double Gatwick use

By Michael Dome, Aerospace Correspondent

BRITISH AIRWAYS could become Gatwick's biggest single airline early in the 1980s, in view of the State airline's expansion plans.

Mr. John Story, newly-appointed British Airways manager at Gatwick, says that the airline plans to double the number of passengers it carries into and out of that airport to 2m in two years' time.

"We intend to become the dominant airline at Gatwick, working closely with the British Airports Authority, to help it grow as a major international airport," says Mr. Story.

Next year, BA will launch eight new scheduled services from Gatwick - to Stockholm, Bologna, Madrid, Barcelona, Valencia, Bilbao, Lisbon and Oporto, joining the airline's existing scheduled flights to Faro, Malaga, Alicante and Palma. BA, through its charter subsidiary, British Air Tours, is already a big holiday operator at Gatwick.

In the next two years BA will also be introducing two new types of jet airliner, the Boeing 737 and the Lockheed TriStar Dash 200, replacing ageing Boeing 707s.

NEWS ANALYSIS - FORESTRY

Planting for a 21st century harvest

By CHRISTOPHER PARKES

TAKING STOCK after the First World War, the Asquith Government quickly realised that the devastation wrought by the conflict spread far beyond the graveyard acres and blood-soaked battle fields of Northern Europe.

Britain's landscape had been devastated by the search for timber to support the war effort. Demand for packing cases, ammunition boxes, coffins, trench cladding and duck boards stretched Britain's forests to their limit.

A million acres of trees were cut down to fuel the war. In 1914 there were 2.7m acres of forest in Britain. In 1919 there were only 1.68m acres, and surveys showed that the remaining trees had little or no value - only the best had been shipped across the English Channel.

With remarkable foresight and alacrity, the Asquith administration decided that these strategic reserves had to be rebuilt. The Acland Committee recommended that the nation should undertake to create reserves of standing timber enough to guarantee supplies for up to three years as insurance against another war or similar national emergency.

Sixty years ago this month, acting on the committee's recommendation, the Government set up the Forestry Commission. It was given until the end of the century to establish a forest estate for the nation extending to 1.8m acres and to help encourage the planting of an additional 3m acres of private woods.

The commission tends to support recent recommendations that the national forest should be doubled by the year 2050 to make Britain about 25 per cent self-sufficient, but it has so far had no indications that the Government is prepared to put up the money and provide the necessary aid for private landowners.

The trouble with trees is that they take so long to grow. This tends to influence decisions made on forestry policy. Government has enough trouble managing from day to day without the worry of wondering about the advisability of sponsoring the planting of oak trees which may not reach their prime for 200 or 300 years. Even softwood varieties suited to the British climate take at least 60 years to mature.

Propagation

Sixty years ago, the 16th Lord Lovat, Simon Fraser, and Lord Clinton, laid the foundations of the forestry policy, planting trees with much ceremony in Monasby Forest, near Elgin, and Eggesford Forest, in Devon. In the next 10 years, the commission bought 602,000 acres of land, including 130,000 acres from the Crown. It had planted almost 140,000 acres of its bolding, and was nursing more than 300m seedlings in its propagation farms.

commission was instructed to supply what it could from the private woodlands spared during the 1914-18 war. While half its staff was occupied planting new trees, the other half was busy chopping down the old.

But once again the strategic value of forestry was recognised, and in 1945 the Government once again set a target: 5m acres by the end of the century. The Forestry Act of 1947 introduced grants for private woodland owners, and plantings increased rapidly.

Only nine years later, the commission reached another milestone, the Queen officiating at the formal planting of the millionth acre of nationalised trees. By 1976, the commission had 2m acres in trees and it is still expanding.

It has 2.2m acres of forest and 190,000 acres awaiting planting. Including private woodlands extending across 2.1m acres, the total is close to Mr. Asquith's target.

As the diamond jubilee celebrations get under way, the Government might ask itself the questions being pondered in the commission: how well suited is Mr. Asquith's policy to British needs in the 21st century? Is 5m acres enough? It might also ask itself what this year's £2.4bn wood import bill will look like in 60, 150 or even 300 years.

Concern grows over council house sales

By ELAINE WILLIAMS

WIDESPREAD concern has followed Government proposals to give all council tenants the right to buy their own homes.

The Rural Community Councils' Standing Conference is urging the Government to safeguard housing stocks in rural areas because of pressures on the market.

The conference said there is far less council housing in the countryside, that private rented housing is disappearing. Also lower local wages, pressures from commuters and demands for second homes are forcing the price of rural houses up.

The conference wants safeguards on re-sales such as limiting them to people living within an area of a maximum of 10 miles. It has called for a fairer share

of the Government's Housing Investment Programme money - rural areas get only half the national average - because it feels that the housing authority still has an important part to play to protect local people.

The National Housing and Town Planning Council has also shown some concern of the Government's "right to buy" proposals. It believes that inducements for council tenants to buy like the £100 option to purchase at a later date, but at a fixed price was "reminiscent of the seedier aspects of hire-purchase."

This coupled with other "cut-price temptations," the National Housing and Town Planning Council believed would encourage financial over-ambition among council tenants.

Burton Group chairman will retire next year

By JOHN MAKINSON

MR. LADISLAS RICE is planning to retire as chairman of the Burton Group on January 1 next year. Under proposals which will be put to the board of the retail chain this week, Mr. Rice will be succeeded as chairman by the present chief executive, Mr. Cyril Spencer, but will remain on the board as non-executive vice-chairman.

Mr. Spencer will hold the position of chief executive jointly with Mr. Ralph Halpern, the present deputy managing director. Mr. Halpern will be succeeded by Mr. Brian North, the group's finance director.

The move was initiated by Mr. Rice himself and the reshuffle was agreed amicably, according to Mr. Gerry Slater, the company secretary. Mr. Slater said it had always been Mr. Rice's intention to retire in January 1981. He had brought the decision forward by a year for personal reasons and because he believed the recovery of the Burton group was now established.

Under Mr. Spencer, who took over as chief executive three years ago, the Burton Group has recovered from losses of £2.4m in 1976 to profits before tax of £7.6m last year.

Electricity up by 20%

By ELAINE WILLIAMS

ELECTRICITY PRICE rises of at least 20 per cent are expected next spring.

Gas charges are also due to rise, by 30 per cent in two stages, the first next spring. The electricity increase will come on top of a rise of nearly 9 per cent announced last month.

The electricity industry's provision budget figures show that even if the miners settle for a pay increase of about 20 per cent, and coal prices keep pace with inflation, price increases of 20 per cent passed on to the consumer, will be necessary.

Mr. David Howell, Energy Secretary, would have preferred to defer an increase of this size, or at least introduce it in stages. But the cost of this to the exchequer would be too large.

TWA announces Airport Express. Now you can get a boarding pass without even going to the airport.

Advertisement for TWA Airport Express service, showing boarding passes and a person at a desk. Text includes: 'You only have to spend five minutes at the airport to see how crowded it gets these days. At certain times of the day you can see as many as 30 people queuing at every available check-in desk. But now TWA introduces Airport Express to cut these queues down to size. When you book your trip with your travel agent you can now request your boarding passes and seat numbers in advance. Not only for your outward flight but for all the TWA flights you have to make on a trip to the States - outward, connecting and return flights. So you don't have to queue for them at the airport. All you have to do is drop your baggage at the Airport Express desk and you're on your way through to the plane, to the exact seat you asked for. Smoking, non-smoking, aisle or window. ONE FAMILIAR AIRPORT SIGHT YOU'LL BE SEEING LESS OF. You're going to like us TWA'

Yorkshire Bank Base Rate. With effect from 19th November 1979 Base Rate will be changed from 14% to 17% p.a. Yorkshire Bank Limited Reg. Office: 2 Infirmary Street Leeds LS1 2UL

UK NEWS

Civil engineering orders show drop

BY ANDREW TAYLOR

CIVIL ENGINEERING companies in the UK have suffered a significant deterioration to their position, according to the latest quarterly workload survey carried out by the Federation of Civil Engineering Contractors.

The Federation said yesterday that its October survey shows that the industry had markedly fewer new orders compared with six and 12 months ago.

Of the 243 companies replying to the survey, 67 per cent

said that orders were either at the same level or below that of six months ago, and 51 per cent reported the same of a year ago.

More concerns had reported an increasingly high level of plant lying idle, as the "catch-up" period which followed the bad weather and industrial action of last winter had now worked its way through.

The market was declining, with clients offering smaller contracts, said the federation. Twelve per cent of construction companies replying to the survey said they had no civil engineering work on their books at all. These were predominantly among medium-sized companies.

Forward projections for civil engineering work had worsened significantly. There was less optimism on projections for new orders, already seen as a declining sector.

A substantial proportion of respondents now also expect repair and maintenance to decline. Previously, this had been regarded as a relatively stable sector. As a result of these changes, future employment prospects are expected to

worsen," the federation added. Almost half the companies replying expected new orders to fall in the next 12 months. Only 10 per cent expected new orders to increase. Companies anticipated a fall of 36 per cent in orders for repair and maintenance over the next year, and 58 per cent expected orders to maintain their current levels, but not exceed them.

However, London and the south-east have, according to the survey, continued to be the least affected by the recession, with an increase in order books as compared with six months ago, more invitations to tender and an increase in the average size of contracts.

The north-east also appeared to be less affected than other regions, with an improved level of tenders, albeit it from a very low base.

East Anglia, the north-west, North Wales and Scotland appeared to have the worst decline, steepest in North Wales. In Scotland, it now appears that work associated with the offshore oil industry is no longer sufficient to check the underlying downward trend, says the federation.

Chamber plea for Dockland

By Elaine Williams

THE LONDON Chamber of Commerce and Industry has urged Mr. Michael Heseltine, Environment Secretary, to speed the setting up of the urban development corporation to encourage regeneration of London's dockland.

In a letter to Mr. Heseltine, the Chamber said it is anxious to see developments and regeneration promoted in the area. It has been concerned for several years at the slow rate of progress. It welcomed the concept of the urban development corporation as a means of overcoming problems which have proved intractable to existing authorities and of promoting the renewal of Docklands.

The Chamber said the plan has been through all the necessary statutory consultative processes.

The letter also said it is time to abolish the Industrial Development Certificate system in the Dockland areas. This is to prevent time being wasted by officials of the new corporation having to argue the case for industrial development with the Industry Department.

"There are no grounds for hampering the work of the urban development corporation and deterring potential developers by retaining a system devised at a time of industrial expansion when the problem was congestion not dereliction."

No retail sales boom from tax rebates

BY DAVID CHURCHILL, CONSUMER AFFAIRS CORRESPONDENT

FEW CONSUMERS saved their tax rebates received during October, according to the latest Financial Times Survey of consumer confidence published today.

Consumers in the survey were asked in particular whether they had saved or spent their rebate. Some 44 per cent of the sample said they had spent their rebate, while 13 per cent said that it had been saved. However, 35 per cent of the total sample said that they had not received any rebate.

The results of this survey were broadly in line with those achieved in an early survey as to what consumers intended to do with their rebates.

However, the extra spending power made available in October was not generally reflected in retailers' sales. This sug-

gests that consumers spent their rebates either paying off previously incurred debts—which financed the pre-Budget spending spree—or in meeting higher bills, especially the delayed telephone bills.

Moreover, the tax rebates appeared to have done little to stimulate consumer confidence in the future of the economy. The November index of future confidence fell again from minus 33 per cent to reach minus 35 per cent, still much lower than during last winter's industrial disputes. The November survey found that 14 per cent of consumers expected conditions to improve—the same as last month—but 49 per cent (2 per cent more than last month) expected conditions to worsen.

In addition, the six-monthly index—which reflects the longer term trend—also fell ably from minus 24 per cent to minus 26 per cent. This sharp fall was due to the General Election and pre-Budget euphoria no longer being included in the six-month period under review.

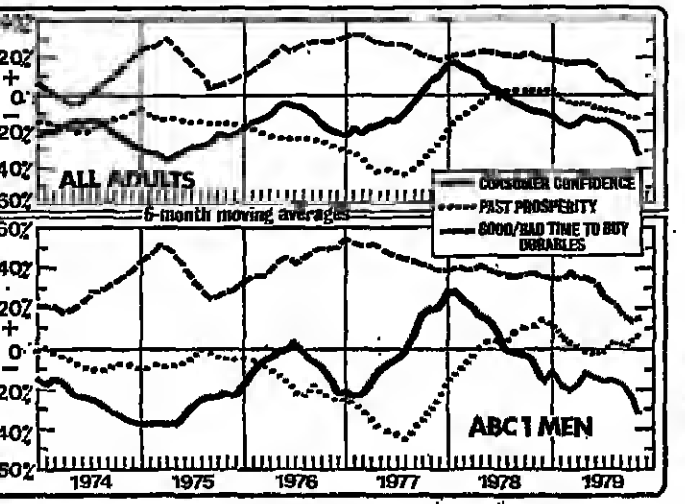
The main reason for pessimism, according to the survey, continued to be the effects of inflation which was mentioned by 38 per cent. The Conservative Government's policies were blamed by 26 per cent, while a fifth simply felt that the trend was "to get worse."

However, strikes appeared to diminish in importance as a cause for concern since they were given as a reason by only 10 per cent, compared with 26 per cent last month.

demand after the higher VAT imposed in the Budget. There is also a feeling among retailers that consumers are having a "final fling" before the recession begins to bite next year.

The unemployment index also showed an improvement, with the index falling from plus 37 per cent to plus 32 per cent. In November, some 44 per cent of the survey thought unemployment would increase, while 12 per cent thought it would decrease.

The Financial Times survey of consumer confidence was carried out between November 1 and 7 by the British Market Research Bureau on behalf of the Financial Times. A sample of 941 adults was interviewed.



Pessimism

The minority of optimists in the survey could do little more than base their optimism on the hope that "things must improve."


This was quoted by 57 per cent of the sample, up from 51 per cent last month. Just under a third—slightly less than last month—felt that the Conservative Government's policies were a cause for optimism.

Only 2 per cent of optimists thought that tax concessions were a suitable cause for hope.

Analysis of the survey by social sub-groups shows that the confidence of ABC1 men (professional and executive) increased, while all other sub-groups declined. The ABC1 index for men fell by six points to minus 27 per cent, although

Not deterred

Similarly, lack of confidence in the future is not deterring consumers from believing that now is a good time to buy consumer durables. The November "time to buy" index stood at plus 15 per cent, a rise of 4 per cent on last month. Some 43 per cent thought it a good time to buy, with 28 per cent believing it was not. This improvement had been expected following the depressed levels of consumer



Coutts & Co.

Coutts & Co. announce that their Base Rate will be increased from 15½% to 17% per annum on 19th November 1979 until further notice.

The Deposit Rate on monies subject to seven days' notice of withdrawal will increase from 13½% to 15% per annum.


Grindlays Bank Limited

Interest Rates

Grindlays Bank Limited announce that their base rate for lending will change from 14% to 17% with effect from 19th November, 1979

The interest rates paid on call deposits will be: call deposits of £1,000 and over 15% (call deposits of £300-£999 14%)

Rates of interest on fixed deposits of over £10,000 will be quoted on request.




Head Office: 23 Fenchurch Street, London EC3R 3ED Tel: 01-626 0545

Bank of Ireland

announces that the following rate will apply from and including 19th November, 1979

Base Lending Rate 17% per annum



Bank of Ireland

Bank of New South Wales


Bank of New South Wales announces that with effect from Monday, 19th November, 1979 its base rate for lending will be increased from 14% to 17% per annum.

Bank of New South Wales, 29 Threadneedle Street, London, EC2R 8BA.

Incorporated in Australia with limited liability.

TSB BASE RATE

With effect from the close of business on Monday 19th November 1979 and until further notice TSB Base Rate will be 17% per annum.



TRUSTEE SAVINGS BANKS

Central Board, P.O. Box 33, 3 Copthall Avenue, London EC2P 2AB.

EUROBONDS

The Association of International Bond Dealers Quotations and Yields appears monthly in the Financial Times. It will be published in an eight-page format on the following dates in the remainder of 1979:

November 12 December 10 1979

January 14 February 11 March 10 April 14 May 12 June 11 1980

There is a limited amount of advertising space available each month; if your company is interested in taking advantage of this offer please contact:

The Financial Advertisement Department on 01-248 8000 Ext. 424 or 389


THE HONGKONG BANK GROUP

BASE RATES

The Hongkong and Shanghai Banking Corporation
The British Bank of the Middle East
and
Mercantile Bank Limited

announce that their base rate for lending is being increased, with effect from 19th November, 1979

To 17% per annum from 14% per annum



For the first time a major Belgian bank opens a fully operational branch in Italy.


BANQUE BRUXELLES LAMBERT

BOW IN MILAN

Since June 1979, the financial heart of Europe is also ticking in Italy.

Banque Bruxelles Lambert, the first Belgian bank to establish a fully operational branch in Milan, now offers services ranging from local to international, to help you develop your business in Italy, in Belgium, the EEC, and throughout the world.

Contact: Robert Sorgeloos, Manager Banque Bruxelles Lambert (Milan) Piazza Castello, 28 21120 Milano - Phone: 8546 Telex 335364-335364 BABRU - I



Banque Bruxelles Lambert

banking, a matter of people

Marnixlaan 24, 1050 Brussel - Tel.: 02/513.81.81 - Telex 26392 BELIN.

هكذا من الشهر



TEN SOLID REASONS WHY KRUGERRANDS ARE THE BRIGHTEST WAY TO INVEST IN GOLD.

Krugerrands are gold
 Each Krugerrand is a beautiful gold bullion coin which contains exactly one troy ounce of fine gold.

Gold is rare. Gold is beautiful. Gold is the world's true wealth. It's hard to find, it's hard to mine and it's probably the most sought after material known to man.

There's only so much gold in the world. That's why historically it has held its value against paper money. And although in the short term its price can go down as well as up, history has shown that gold has retained its value unlike many other forms of investment.

Krugerrands are the cheapest way to buy gold
 Although you can now buy gold bullion, Krugerrands are cheaper. This is because they are not subject to the 15% VAT payable on bullion. Also there is only a minimal premium over the gold price (usually between 5% and 8%) which covers the cost of minting and distribution.

Consequently they are generally accepted as the most economic and realistic way to invest in gold.

Krugerrands are international
 Krugerrands can be bought and sold almost anywhere in the world. They are internationally respected and accepted because Krugerrands are an integral part of the gold market and they are traded internationally as bullion.

Their buying and selling prices are quoted daily around the world.

Krugerrands are private property
 In many countries a rapidly increasing number of people are making gold part of their portfolio.

There's no paperwork in buying

Krugerrands. All you need is money.
 You can't even buy a car that way.

Krugerrands are dependable
 Gold is something you can trust. Throughout the ages gold has held its value and, whilst in the short term the price can go down, there has been a dramatic increase over the past ten years.

Where other currencies come and go, gold soldiers on.

And now the Krugerrand makes it simple for you to own.

We'd hardly suggest that you give up all your other investments and buy Krugerrands.

But for insurance it might be a safe idea to make gold part of your portfolio.

Krugerrands are portable property
 Property has always been a good investment but you can't take bricks and mortar with you. Krugerrands go where you go and are worth the same almost anywhere in the world.

Krugerrands are easy to buy and sell
 There is no maximum or minimum limit to the amount of Krugerrands you may buy.

All you have to do is to walk into almost any bank and buy them with cash or a cheque.

And they're just as easy to sell.

Krugerrands are easy to understand
 You can be your own investment expert. Because your Krugerrands each contain exactly one ounce of gold,

merely by picking up the newspaper you can assess their value immediately against the price of gold which is also quoted per ounce.

Krugerrands are your own business
 When you own Krugerrands you know where they are. You know their value. You know where you keep them. And you know that they're immediately available.

And there's no-one else involved in their release should you need money quickly.

Krugerrands are better than paper money
 Money inflates. Money devalues. A Krugerrand on the other hand is less prone to the fortunes of any one government. Of course it would be unfair to suggest the price of gold does not fluctuate from day to day in common with other investments but in the long term it has consistently beaten inflation.

A Krugerrand is its own bank.

So why take a chance with money? History has shown that owning a little gold can provide security.

And that's worth having.

Go to your bank or ask your broker about buying Krugerrands. If you'd like more information send off the coupon below for a free copy of our leaflet: "Gold Facts and the Krugerrand"



KRUGERRAND
 The cheapest way to buy gold

To: International Gold Corporation,
 P.O. Box 9B, East Molesey, Surrey.

Please send me a free copy of "Gold Facts and the Krugerrand"

Name _____

Address _____

_____ FT2

UK NEWS

Pesticide use 'must stay at present level'

BY LISA WOOD

THE British Agrochemical Association does not accept the recommendation of the Royal Commission on Environmental Pollution that the use of pesticides should be reduced to a minimum consistent with efficient food production.

The association says such a policy would be inapplicable and efficient food production depended on the optimal use of pesticides.

In a formal response to the commission's seventh report, the association defended the amount of pesticides used at present to maintain crop yields.

It is disappointed that the Royal Commission did not recommend that further efforts be made to reduce the deliberate and accidental misuse of pesticides.

The commission said the continued use of pesticides was essential to maintain crop yields and therefore to keep down costs of agricultural products and the price of food to the consumer.

"Our concern is not with the question of whether pesticides

should be used, it is that they should be used wisely with a balanced assessment of risks and benefits."

The association acknowledges that resistance to insecticides and fungicides is of concern but says:

"We consider that the best strategy to cope with the problem of resistance includes the continuing development of new plant varieties, and the introduction of new products with different chemical structures coupled with the wider dissemination of good advice to growers on which treatments to use and how best to integrate crop protection measures in crop growing programmes."

Neither does it approve of the commission's view that parts of the Food and Drug Acts should be amended so that producers did not have to produce absolutely pest-free products.

According to the association sales of pesticides to the home and export markets in the first six months of this year amounted to £238.3m compared with £148.3m last year.

Building costs raised by delays

By Elaine Williams

PLANNING PERMISSION DELAYS are pushing up the cost of housing by 20 to 25 per cent according to Sir Maurice Laing, chairman of John Laing.

In an interview published in Property Monthly Review, Sir Maurice said that it can now take up to four years to build on a site where once it only took ten weeks from buying land to the start of building.

Sir Maurice was also concerned about Britain's infrastructure. He said: "Water, sewerage, lighting all communications, harbours, etc, used to be the best in the world at the turn of the century, and now its getting to be the worst in the western world."

Also Sir Maurice believed that Britain would have a worse time than many countries if the forecast world recession took place, and he thought that the property market would suffer with it.

He said: "The demand for commercial property is not going to be anywhere near as great as it has been in the last 20 years." However, he thought that big chain stores would continue the trend towards expansion in smaller centres of population, and towns of 20 to 30,000 will see a move from the smaller shopkeeper to the multiples."

BRITISH TRAVEL AGENTS' CONVENTION

Sun with gloomy prospects

BY ARTHUR SANDLES IN LOS ANGELES

ALL WEEKEND the British have been arriving. Now there are more than 2,000 delegates to the annual conference of the Association of British Travel Agents, their spouses, and assorted peripheral personnel who want to catch their attention or hear what is going on.

Every year as the British winter starts many in the travel industry fit off to foreign parts. Last year it was the Costa del Sol, next year it will be Florence. This time it is the sunny glamour of Southern California.

It is easy to dismiss it as unfashionable money wasting, sunshine fiddling while London freezes. In fact that ABTA convention, which has as much sidelines entertainment as any other such gathering, is also the one occasion when members of one of the nation's biggest businesses get together. Domestic and foreign tourism, both incoming and outgoing, has a turnover approaching £6bn a year.

This year's convention has an unwelcome edge. The gathering, which begins this morning, will be part celebration and part wake. This has been a reasonable year for tourism, given all the adverse factors; but just about every pointer suggests that next year is going to be a travel year that most in the industry will want to forget.

In ten years of attending

ABTA conventions I cannot recall a time when tour operators have been so willing to discuss how badly they are doing with their winter sunshine holidays and have been so nervous about prospects for the main selling season for the summer. Usually they talk bravely to try to panic their rivals.

The one bright spot in recent months, and the reason why British travel agents have gathered in Los Angeles, is the remarkable growth of traffic from Britain to the U.S. As the number of Americans coming to Europe has fallen so the number of Europeans, and Britons in particular going to America has leapt.

Some suggest that 1980 will be the year in which as many Britons go to the U.S. as Americans come to Britain.

America's gain has been Spain's loss with the past summer seeing a remarkable dip in its popularity.

Tour operators have shown their irritation, and reflected consumer demand by finding as many alternatives to the traditional Spanish locations as possible, but even in hard economic times such as these few other areas have the bed capacity of the Spanish resorts.

But when they are not looking back over the past summer and looking nervously at the prospects for the early 1980s the

delegates will concentrate on the perhaps contradictory pressures of oil crises and low air fares on future travel trends. Nothing worries the travel market more than talk of escalating fuel prices. The industry dislikes surcharges almost as much as passengers do. Unexpected fuel shortages cause delays and additional expense which the industry, with its narrow margins (a successful tour operator makes about £10 profit per passenger) is ill-equipped to deal with.

Unfortunately for the operators the market is so price-sensitive and so overburdened with capacity that talk of increasing these margins through basic price rises is unrealistic.

The words "low air fares" spark off a complex set of reactions. Hoteliers and national tourist organisations are delighted by the prospect because it means more traffic, scheduled airlines are half in favour and half horrified that their traditional structured system of charges is being disrupted by rebels from the inside and intruders from without; tour operators are concerned that their own protected world of charter flights is about to be invaded; and airline entrepreneurs like Sir Freddie Laker, who is here this week are tickled pink at the dust which is being stirred up.

PLANT & MACHINERY SALES

- 1) ROLLING MILLS
 - 20in x 30in x 350 h.p. Two High Reversing Mill.
 - 5in x 12in x 10in wide variable speed Four High Mill.
 - 3.5in x 8in x 9in wide variable speed Four High Mill.
 - 10in x 16in wide fixed speed Two High Mill.
 - 10in x 12in wide fixed speed Two High Mill.
 - 6in x 16in x 20in wide Four High Mill.
- 2) CUT/LENGTH LINE 1,500 mm x 3 mm x 15 Ton Coil.
- 3) CUT/LENGTH LINE 1,000 mm x 2 mm.
- 4) CUT/LENGTH LINE 750 mm x 3 mm.
- 5) CUT/LENGTH LINE 400 mm x 3 mm.
- 6) WIRE FLATTENING AND NARROW STRIP ROLLING MILL two stand by R.W.F. 10in x 8in rolls.
- 7) SLITTING LINE 920 mm x 10 ton coil by Cam.
- 8) SLITTING LINE 300 mm x 1 ton coil by Cam.
- 9) SLITTING MACHINES 36" and 48" by Weybridge.
- 10) 350 h.p. REVERSING MILL, 20in x 30in rolls, Farmer Norton.
- 11) PLATE SHEAR 4 ft x 1in Cincinnati.
- 12) GUILLOTINE 8ft x 0.125in Pearson.
- 13) No. 1 FICOP SCRAP SHEAR, 75 x 35 mm bar.
- 14) SHEET LEVELLING ROLLS, 920, 1,150 and 1,850 mm wide.
- 15) HYDRAULIC SCRAP BALEING PRESS, Fielding & Pate.
- 16) FORGING HAMMER 3 cwt. slide type, Massey.
- 17) VERTICAL WIRE DRAWING BLOCKS 24in dia. x 25 hp. Farmer Norton.
- 18) AUTOMATED COLD SAW, non ferrous, Noble & Lund.
- 19) WIRE DRAWING MACHINE, MARSHALL RICHARDS VARIABLE SPEED 4 BLOCK PACEMAKER (25 hp x 22 inch in line, non-slip Drawblocks).
- 20) 1972 WIRE STRAIGHTEN AND CUT-TO-LENGTH MACHINE. Max capacity 10 mm dia. m.s.
- 21) HORIZONTAL DRAW BLOCK 36in Farmer Norton.
- 22) WIRE DRAWING MACHINE 15 DIE cone type, Unidy.
- 23) WIRE DRAWING MACHINE 15 DIE cone type, Marshall Richards.
- 24) COMPLETE BICYCLE RIM MANUFACTURING PLANT for disposal, capacity 300 rims per hour.
- 25) 6500 CFM ATMOSPHERE GENERATOR (nitrogen by incandescence for disposal).

Wednesday Machine Co. Ltd.
Oxford Street, Bilston,
West Midlands.
Tel: 0902 42541/2/3. Telex: 336414

WICKMAN 1" 6SP AUTOMATIC. Spindle stopping, cross drilling Pickup attachment, 3 drilling spindles, swarf conveyor, will turn and index to maker's limits. Excellent.

WICKMAN 1" 6SP AUTOMATIC, reconditioned to maker's limits.

WICKMAN 1" 6SP AUTOMATIC. Rebuilt to maker's limits.

WICKMAN 2" 6SP AUTOMATIC, reconditioned to maker's limits.

NEW BRITAIN 6SP AUTOMATIC 1" - Rebuilt.

CONOMATIC 1" 6SP. Rebuilt to maker's limits.

CONOMATIC 3" 6SP, reconditioned to maker's limits.

CINCINNATI CENTRELESS GRINDER, reconditioned. Excellent.

McKAY 8" WIDE SHEET METAL PROCESSOR.

UPSET FORGING MACHINE 750 TONS capacity 4in dia.

BARBER & COLMAN HORBER 16-16. Almost New Condition.

BURGMASER TURRET DRILL 6 spindle, capacity 2". Excellent.

JUNG CS INTERNAL GRINDER. Rebuilt. Excellent.

DELAPENA VERTICAL HONER, 6in dia. Excellent.

PETER WOLTERS DOUBLE DISC LAPPER, 32in dia. Reconditioned.

RHODES 80 TONS PRESS, adj. stroke, roll feeds. As New.

HME 100 TONS KNUCKLE PRESS. As New.

HME 200 TONS PRESS TYPE C2R, roll feeds. Excellent.

WIEDMANN TURRET PRESS, 18 station, 28" x 40". Rebuilt.

200 TONS SCHULER HIGH SPEED PRESS, 200 spm. Excellent.

NATIONAL COLD HEADERS 1" x 1" dia. Recond. Excellent.

1500 TONS CLEARING DOUBLE ACTION PRESS, bed 180" x 96".

LUMSDEN GRINDER, vertical spindle capacity 84" x 24".

NATIONAL COLD HEADERS 1" x 1" dia. Recond. Excellent.

WICKMAN 1" 6SP AUTOMATIC, reconditioned to maker's limits.

WICKMAN 1" 6SP AUTOMATIC, Rebuilt to maker's limits.

WICKMAN 2" 6SP AUTOMATIC, reconditioned to maker's limits.

CONOMATIC 3" 6SP, reconditioned to maker's limits.

UPSET FORGING MACHINE 750 TONS capacity 4in dia.

HME 100 TONS KNUCKLE PRESS, As New.

HME 200 TONS PRESS TYPE C2R, roll feeds. Excellent.

Hols Tools Ltd.
154/6 Blackfriars Road, London SE1 8EN
Tel: 0728 3131. Telex: 261771

Once again you can know a little more about nuclear disarmament and your navel.

The Times is back.

And, once again, you can enjoy that unique forum for public debate - The Times Letters Page.

On one day you may find a letter advocating the need for world nuclear armament, another of course praying and beseeching for the complete reverse.

You could find a letter mourning the sad demise of the button-hole and the apparent collapse of any standards at all in Savile Row.

Or you could read a letter advising you on the best part of your anatomy (your navel) in which to secrete the salt while eating celery in bed.

Information and entertainment you can't afford to miss.

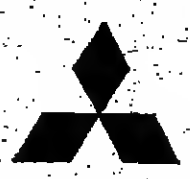
In the Times Letters Page.

Commercial Bank of Wales Limited
BANC MAMWACHOL CYMRU
114-116 St. Mary Street, Cardiff CF1 1XJ

Base Rate

Commercial Bank of Wales announces that, for balances in their books on and after 16th November 1979 and until further notice their Base Rate for lending is 18% per annum.

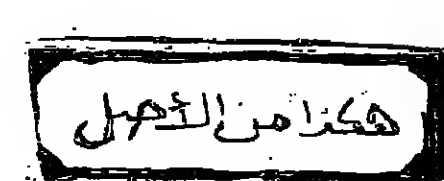
This announcement appears as a matter of record only, Oct. 1979



THE MITSUBISHI BANK, LIMITED
(London Branch)
U.S.\$30,000,000

Negotiable Floating Rate Certificates of Deposit
Maturity Date 27th October, 1982

Managed by
MITSUBISHI BANK (Europe) S.A.
SOCIÉTÉ GÉNÉRALE DE BANQUE S.A.
Agent Bank
CREDIT SUISSE FIRST BOSTON LIMITED



WINTER SPORTS



SAAB
Born to lead

Saab (Gt. Britain) Ltd. Saab House, Marlow,
Bucks. SL7 1HY. Telephone: Marlow (06284) 6977.
Export Enquiries - Telephone: 01-491 2905.

UK NEWS—LABOUR

Union to discuss next move in BBC dispute

BY GARETH GRIFFITHS, LABOUR STAFF

THE ASSOCIATION of Broadcasting Staff national executive will meet today to discuss the 14,000 strong union's next move in the mounting dispute with the BBC over regrading proposals.

At the weekend 18 technical managers who run studio crews were instructed to go on a 24-hour strike. They were joined by 100 crew and studio staff who refused to work with the staff BBC management had intended should cover for the striking managers.

The BBC has said it regards the 100 staff as having broken their contracts and no longer on the pay roll. It is refusing to accept the technical managers back unless they undertake to work normally. The BBC also wants assurances from the ABS which the union has refused to give.

Mr. Paddy Leech, ABS assistant general secretary, said the union would not be provoked by the BBC's attitude. He did not expect further industrial action until after today's executive meeting. The ABS is committed to supporting staff affected by a regrading freeze which sparked the dispute on Wednesday night.

Restructuring

The BBC wants to replace its present regrading system, which it says is on the verge of collapse, with a new pay structure to be introduced by April 1980. Eventually it would cover 16,000 BBC staff. The ABS has agreed to restructuring, but is angry at

the BBC's decision to suspend staff regradings from November 5.

There are about 1,000 regrading claims outstanding. The union says it wants the suspension lifted and is making industrial action by staff affected official.

Programmes already hit by the dispute include sports programmes, the *Times* World contest, the children's programme *Multi Coloured Swapshop*, and *Grandstand*.

Advisory Conciliation and Arbitration Service officials hope to arrange a meeting with both sides this week. But on Friday night, after separate talks with the BBC and ABS, they said there seemed little scope for conciliation.

Shotton action in balance

BY ROBIN REEVES

OFFICIALS of trade unions at the British Steel Corporation's Shotton Works, North Wales, will meet this afternoon to decide whether to continue the fight against BSC's plan to end its iron and steel making or negotiate severance terms.

The outcome was described yesterday as finely balanced. The Transport and General Workers' Union, the second largest among Shotton's 10,500 workforce, is committed to continuing the fight.

But a mass meeting of the four craft unions at Shotton has voted two to one to negotiate a severance agreement. So too have the blast furnacement.

Representatives of the largest union, the Iron and Steel Trades Confederation, which has more than 8,000 members, will meet this morning to hear the outcome of branch discussions.

The membership is split with blue collar branches tending to opt for redundancy and white collar branches to continue fighting.

A Nottingham meeting of Conservative trade unionists urged the Government to direct BSC to examine ways to maintain some steel making at Shotton and the possibility of making it an alternative source to BSC for sheet steel.

Basnett seeks range of views in Labour inquiry

BY OUR LABOUR STAFF

THE COMMISSION of inquiry into the way the Labour Party is run should consult the widest possible range of opinions in the party.

Mr. David Basnett, general secretary of the General and Municipal Workers' union and chairman of Trade Unionists for a Labour Victory, said yesterday.

Mr. Basnett, one of the five trade union representatives on the inquiry, said the TULV would support procedures for the commission enabling it to ensure there would be the widest possible consultations within the party.

It would look at membership, finances, electoral organisation, political education and campaigning activities at all levels.

Bid to improve training

THE MANPOWER Services Commission is launching a voluntary registration scheme for courses for industrial training staff.

It is intended for colleges of further and higher education, private organisations and training centres supported by the Industrial Training Boards. The scheme covers courses on the organisation of managing and on training advice.

CONTRACTS

Lovell (Midland) awarded £2m industrial project

Y. J. LOVELL (MIDLAND), a Lovell Construction company, has been awarded a contract worth over £2m for redevelopment of a 150,000 sq ft industrial site at Greenford, Middlesex, for Percy Bilton. Work includes demolition of structures on the site, and construction of 14 industrial and warehouse units in five blocks. Completion is scheduled for May 1981.

NOLTON COMMUNICATIONS, Cheshunt, has an order worth about £120,000 from the North West Water Authority for 279 Nova AM/FM radios, and 79 Sabre AM radios. The equipment will be used to control the Authority's fleet of service and installation vehicles.

H. H. ROBERTSON (UK), export division, has won orders worth £1.6m for building cladding systems for three construction projects in Saudi Arabia. Largest order, worth £1m, is for a government installation using 6,000 sq metres of protected roof and wall cladding and 10,000 sq metres of the company's architectural wall system.

Britannia Building Society has ordered an ICL 2972 computer system, valued at nearly £2m, from INTERNATIONAL COMPUTERS. The 2972 will be installed mid-1980 when the Britannia's new computer block has been built at Leek, Staffs. It is expected to be fully operational in January 1981.

Clansman VHF radio communications equipment, worth £800,000, made by RAGAL-TACTICOM is to be supplied to the Royal Netherlands Navy, for use by the Marines. The order is for manpack radios and includes a mounting frame which enables rapid changeover from vehicle to manpack to vehicle roles.

An order valued at £540,000 has been won in the Middle East by OCS (EXPORT), London, a company formed by the Office Cleaning Services Group. Under the order, R. M. Moody, Bridgwater, Somerset, shirt manufacturer within the OCS Group, will be producing 90,000 combat shirts.

JOHNSON RADLEY, mould and casting division of United Glass, has won a contract to supply complete mould equipment for a new glass container factory shortly to become operational in Panama. Vidrios Panamenos SA is based near Panama City and will manufacture a variety of glass containers. Johnson Radley is producing 60 different sets of mould to cope with its output.

BAT (UK and Export) has ordered a BURROUGHS B 6800 large-scale computer system, to cater for the increased workload following the launch of its State Express 555 cigarettes. UniBAT has established its long-term hardware/software strategy, the £750,000 system will be installed on a rental basis at its headquarters in Woking.

GEC MECHANICAL HANDLING has an order worth £320,000 for the design and supply of a trailing shiploader to handle bulk salt at 600 tonnes per hour. The machine will operate on a jetty to be built alongside the Manchester Ship Canal at the Weston Point Works, Runcorn, Cheshire.



Mr. Jim Rooke is still your man in London.

At the end of 1976 the Laenderbank opened its own representative office in London. The first London office of any Austrian bank. And nicely timed to take full advantage of the up-turn in the British economy.

Mr. Jim Rooke has been head of the London office since it opened. Austrian business is his business. Perhaps because he knows his way around in Britain as well as Austria the Laenderbank's business with your country has jumped by 37%. And that is good for our customers.

Oesterreichische Laenderbank,
10 Hanover Street,
London W1R 9HF.
Telephone 01-629 4170, Telex 21826



Micro-processors
The up-to-date knowledge you need.



New Open University course for management in industry.

The impact of microprocessors is already beginning to affect almost every industrial company. The development, manufacture and after-sales service of products incorporating microprocessors require new approaches to organisation and investment.

A new home study package has been specially developed by the Open University to provide management in industry with a thorough understanding of how a microprocessor works, and an appreciation of the major implications for business development. The course is entitled, Microprocessors and Product Development: A course for industry.

The course content

The complete course comprises a ready-to-use microprocessor, an instruction manual and six detailed booklets. You can learn in your own time and at your own pace, or you can use the material to organise an in-house scheme of your own.

The first booklet takes you through the principal features of a microprocessor, and the role of hardware and software.

Practical exercises enable you to become familiar with programming.

The remaining booklets cover choosing a microprocessor for your application, the development and production of a microprocessor-based product, and the financial and personnel implications of the new technology. Specialist subjects such as reliability, training and estimating productivity are also covered.

Inclusive of all work materials and a microprocessor, the course, which will become available later in the year, will cost £120.

To receive further details of the course, just complete and post the coupon.

Please send further details of the course. Microprocessors and Product Development: A course for industry.

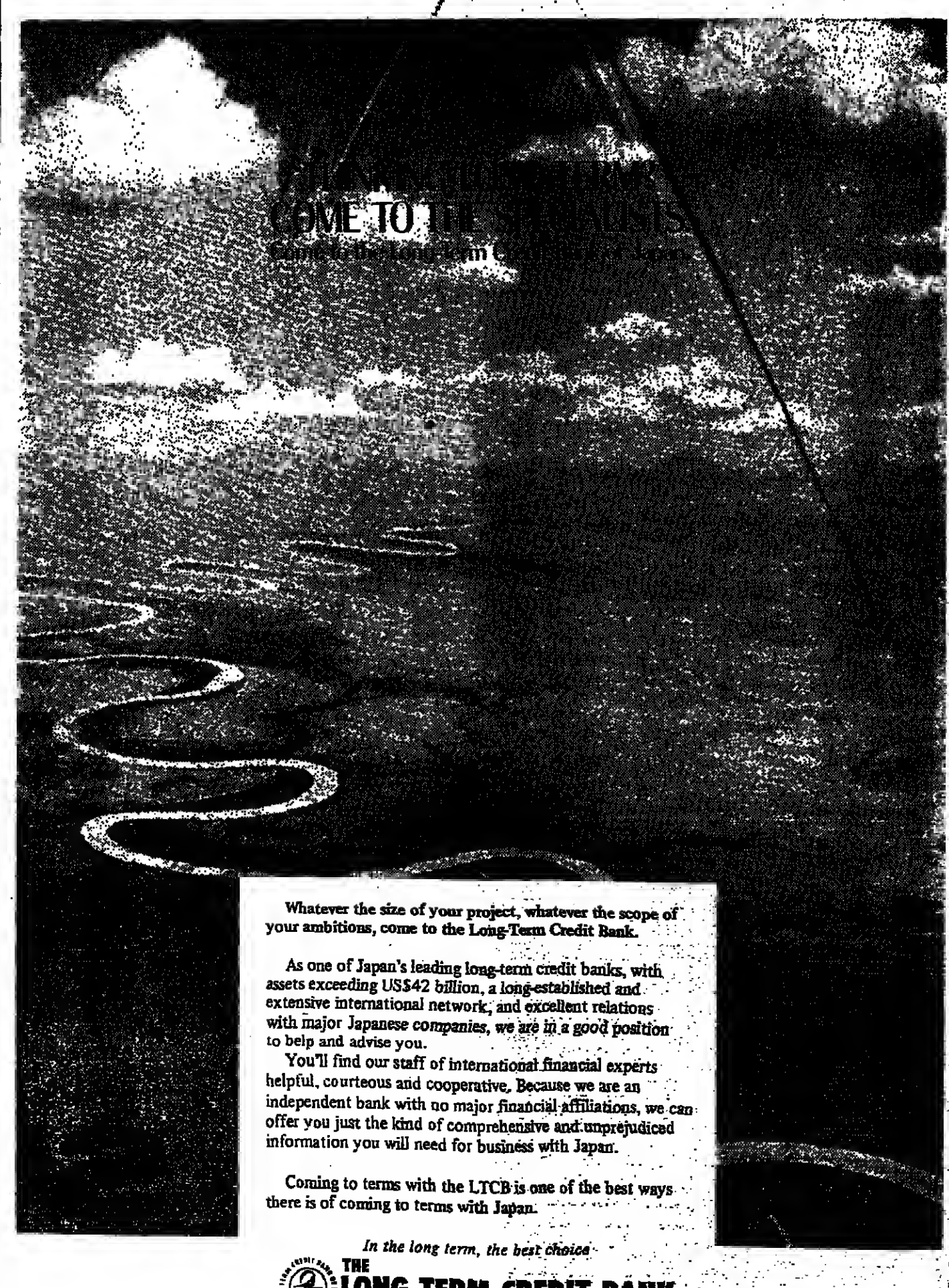
Name

Position

Company

Address

The Open University
P.O. Box 188 (M.P.O.) Milton Keynes MK3 6HW



Whatever the size of your project, whatever the scope of your ambitions, come to the Long-Term Credit Bank.

As one of Japan's leading long-term credit banks, with assets exceeding US\$42 billion, a long-established and extensive international network, and excellent relations with major Japanese companies, we are in a good position to help and advise you.

You'll find our staff of international financial experts helpful, courteous and cooperative. Because we are an independent bank with no major financial affiliations, we can offer you just the kind of comprehensive and unprejudiced information you will need for business with Japan.

Coming to terms with the LTCB is one of the best ways there is of coming to terms with Japan.

In the long term, the best choice

THE LONG-TERM CREDIT BANK OF JAPAN, LTD.

Head Office: Oremachi, Tokyo, Japan Tel: 211-5111 Telex: J24308 New York Branch: 140 Broadway, New York, N.Y. 10005, U.S.A. Tel: 797-1170 Telex: 425722 London Branch: 3 Lombard Street, London EC3V 9AH, U.K. Tel: 623-9511 Telex: 885306 Los Angeles Agency: 707 Wilshire Boulevard, Los Angeles, California 90017, U.S.A. Tel: 488-1766 Telex: 673658 Amsterdam, Sydney, São Paulo, Singapore, Frankfurt, Paris, Toronto, Hong-Kong, Brussels.

هكنا من العمل

Technical Page

EDITED BY ARTHUR BENNETT AND TED SCHOETERS

TEXTILES

Dyeing process demands less energy

WET PROCESSING of textiles is one of the most energy-consuming treatments in the entire industry. In a survey recently carried out in Britain it was revealed, as expected, that the greatest savings over the next few years are likely to be made in the reduction of the amount of energy required to heat up water, to cool it, to apply it to textiles only to remove it subsequently.

Dielectric heating has a great deal to offer in that it only consumes electricity when it is heating water. It requires no warm-up period and it is precise in its application.

This is a system that is now being used for dye fixation and bleaching of fibres during processing.

A completely new machine has recently been designed and built by Smith Textile Machinery (Goodlad Street, Woolfold, Enry, E18 1SG, Tel. 081 794 1665) and which is described as the "Fastran" electronic dye fixation and bleaching machine.

Undyed fibres are fed through a pad in which dye liquor is pressed into them via a nip roller arrangement. The fibre

with the unfixed dyestuff—or it could be a bleach—is next fed via a hopper to a piston feed section which forces the fibre continuously through a tube which carries the impregnated mass through the radio frequency field where the water is rapidly raised to the boil and so fixes the dyestuff within the fibres.

The operating temperature within the mass of moist fibre is somewhat above 100 degrees C and this is an aid to fixing. After this, the mass emerges from the field and is given a normal wash-off followed by drying.

Advantages of the new Fastran EDF process are a rapid and more even heating throughout the mass of fibres, excellent dye penetration and fixation in a minimum of time, optimum fibre condition after dyeing or bleaching and substantial savings in dyestuffs.

The process requires a minimum of labour, reduces the effluent because less water is used initially, saves on space requirements in the dyehouse, dyes very rapidly and offers an effective means of reducing the energy required in dyeing.

PROCESSING

Food processing made more efficient

SIGNIFICANT labour savings and reductions in product loss and spoilage are promised to processors of loose foodstuffs—frozen vegetables, snack and pet foods—who take advantage of a new development from Uesco Vibrators, conveying and vibrating machinery builders.

"Storeveyor" eliminates the temporary storage problems which stem unavoidably from the different volumes of output from processing and packaging plant.

Loose foods are processed—cooked, frozen, cut, trimmed, clipped, etc.—continuously and at a fixed rate of output. Packaging machinery which must fill

and pack bags or cartons to precise weight specifications, cannot match this rate with identical continuity. During any given operational period there are times when the packing plant will outstrip in production the processing, and vice versa. When this occurs, temporary storage facilities must be available to handle the processed bulk foodstuffs.

Conventionally, dump bins are used to take up the slack, and hence the waste of human resources—needed for manhandling such bins—and waste of product through the spillage, breakage and aging caused by such manhandling, are inevitably high.

Storeveyor ends waste by

replacing dump bins with a conveying system which delivers the product direct from processing to packing, storing as required.

A vibrator discharges product into polypropylene buckets, carried in a continuous belt by a Tsubaki conveyor chain, and designed to overlap at the filling point to ensure no spillage. They take product to a hopper with sufficient capacity to store the differential between processing and packing.

To ensure that the hopper does not discharge the product to the packing input conveyor—via another vibrator—in the wrong sequence or at an incorrect speed, Uesco has devised a novel loading system. The

bucket chain is arranged so that it travels the length of the hopper, tipping its load only when activated by a sensing lever designed to roam back and forth "seeking" the back of the product already held in the hopper.

Thus, irrespective of the packing plant's output, new products can only be stacked in sequence and precisely behind the last batch or bucket-full. A continuous operation is thus ensured.

Uesco Vibrators, Gamlingay, Huntingdonshire. Details of Tsubaki fatigue-resistant roller chain products from Belvoir Industrial Factors, FREEPOST, Bingham, Nottingham NG13 8BR.

COMMUNICATION

Messages displayed in vehicle

MUCH IN the favour of a vehicle-borne displayed-message communication terminal from Nolton Communications is the fact that it is available off the shelf, ready to operate without further costly development work.

Known as the MCT-10, it is made by Kustom Electronics of Chanute, Kansas, and consists essentially of an ASCII keyboard and an alpha-numeric display which makes use of a solid state dot matrix panel presenting 224 characters about 0.5 inch high in seven lines of text.

Data rate of the machine is 1300 bits/sec and it employs audio phase shift keying to the 300 to 3000 Hz band; it can thus modulate a vehicle radio as voice signals would but with direct connection.

It also has two character memories, one of which can be accumulating an incoming message while the other is building up a message from the keyboard for later transmission from the vehicle. One advantage is that a message can be received when there is no one in the vehicle.

In addition there are special function keys so that a number of standard messages can be keyed out of the memory to cover routine acknowledgement, emergencies and frequently repeated statements.

More from Fieldings Road, Cheshunt, Herts EN8 9TL (Waltham Cross 33555).

Structural steelwork
is part of...
Norwest Holst
total capability
01-235 9951

ELECTRONICS

Aids testing of systems

OFFERED BY BFT Electronics is a portable high performance microprocessor system analyser, a diagnostic instrument that uses advanced interactive testing techniques to aid product development, production testing, field service or personnel.

Unlike logic analysers, the new unit provides interactive access to the micro's internal registers and to all system memory and input-output ports. It can be used to examine or modify the contents of the program counter, the stack pointer or any register.

Known as AQ8080Z, the unit is suitable for all Z80A, 8080A or 8085A systems.

Unlike emulators, the analyser does not require the removal of the chip itself from the board; it can be soldered in. The user can test his complete system intact while eliminating the possibility of damage to either chip or socket.

More from 516, Walton Road, West Molesey, Surrey, KT9 0QP (01-341 4066).

INSTRUMENTS

Meters from Vienna

TWO OF THE latest multimeters, made by Norma of Vienna, are available from Croptic, Hampton Road, Croydon, CR9 2RU (01-884 4025).

Normatest D 1210 measures only 180 x 100 x 50 mm, has an 18 mm liquid crystal display, and offers 15 ranges covering AC and DC voltage, resistance, and AC/DC current. Semiconductor testing is available on all the resistance ranges. The meter is powered by alkali-

manganese cells and an indicator shows when the voltage is too low. Optional accessories include high voltage and frequency probes.

The other instrument, D 2300RC, has a 9 mm LED display and a relatively large selector wheel which allows single-handed switching to any of the 13 ranges. Making use of integrated circuits and thin film technology, the instrument can measure DC voltage, resistance from 20 ohms to 20 megohms, and capacitance from 2 nanofarads to 20 microfarads. Models are available for both mains and battery operation.

IN THE OFFICE

New microfilm reader

KNOWN AS Copex LR16, the latest 16 mm microfilm reader from Agfa-Gevaert takes film reels mounted into Copex or other NMA style magazines.

Motorised drive gives automatic threading when the magazine is loaded after which there is a choice between low speed, variable between three and 30 mm/sec, and high speed of 2 millimetres/sec in either direction.

A standard reel takes 15 seconds to wind through and an integral storage space is included in the design so that operators can keep up to ten magazines available.

The 12 volt 100 watt lamp is convection cooled and is easily changed after its life of about 2,000 hours is complete.

A seven digit display indicates the length of film travel at any point.

To accommodate all film modes, the unit is equipped with a prism that may be rotated to rectify the image. Viewing area is 365 x 380 mm and the machine can be fitted with lens for magnifications of 21, 26 or 42. Dimensions are 380 x 650 x 670 mm, weight 20 kg.

More from 27 Great West Road, Brentford, Middx. (01-580 2131).

RESEARCH

Test facility expansion

BRITISH Aerospace Dynamics Group has announced that it is investing £1m in a major re-equipment and expansion programme in its Environmental Engineering Department at Stevenage, Herts.

When completed in 1980, it will provide one of the most up-to-date and comprehensive testing facilities in the UK.

The existing capability of the department is already considerable and products can be tested under a full range of climatic and vibration conditions.

Typical climatic environments that can be simulated in the various test chambers are: high and low temperatures at either high or low humidity; high altitude; rain and fine mist;

sand and dust; salt corrosion; exposure to sunlight; fungal growth; temperature and mechanical shock; and mechanical vibration covering a range of frequencies with the option of simultaneous climatic conditions.

The department was established 25 years ago to provide environmental test facilities for the organisation's own use, especially the testing of guided weapons and their associated ground support equipment. It offers its services commercially to industry as a Test House, testing a wide variety of products ranging from motor cars and electronic instrumentation to domestic products and packaging.

DATA PROCESSING

Aids the draughtsman

INTERACTIVE draughting facilities for the creation and scheduling of circuit diagrams and for the layout of printed circuit boards is available for use with Tektronix 4081 interactive graphics system.

Cablos, designates the software package, for use by engineers. No knowledge of computers or computer programs is required for its operation.

The package provides virtually unlimited capacity for storing drawings and symbol libraries. Sketches may be captured and edited by digitising from menus of component symbols and line styles, and instantaneous changes can be made to the form of drawing presentation.

Developed by Cambridge Interactive Systems, Cablos is

written in Fortran and is readily adaptable to cabling layouts, piping and instrumentation diagrams and room and pattern layouts.

Autoproduct has also announced a program for the generation and manipulation of three-dimensional objects with hidden line removal.

It runs on the 4081. Developed by Autoproduct Computer Graphics of UK, the software eliminates the time-consuming manual effort of generating perspective drawings. The object under design is defined only once and as many different views as required are generated in minutes as opposed to days of manual draughting.

Tektronix UK, Beaverton House, PoB 69, Harpenden, Herts, Hempenden 68141.

Retrieving the facts

AGRICULTURAL division of ICI has concluded an agreement with Service in Informatics and Analysis (SIA) under which the latter will market a computer bureau service based on Assasin, a text-retrieval package.

Assasin, extensively employed within ICI, is also used by the Greater London Council, the Central Electricity Generating Board, Tube Investment Group Services and various research associations.

UK and in Holland, France and the U.S. via the SIA network. SIA is owned by CISE (Compagnie Internationale de Services en Informatique)—Western Europe's largest independent computer network services group.

Assasin, extensively employed within ICI, is also used by the Greater London Council, the Central Electricity Generating Board, Tube Investment Group Services and various research associations. SIA on 01-730 4549.

More disc drives offered

ANNOUNCEMENTS have been made by both CPU Peripherals, which is offering a Sbagart product, and BASF, of fixed disc drives using the Winchester technology.

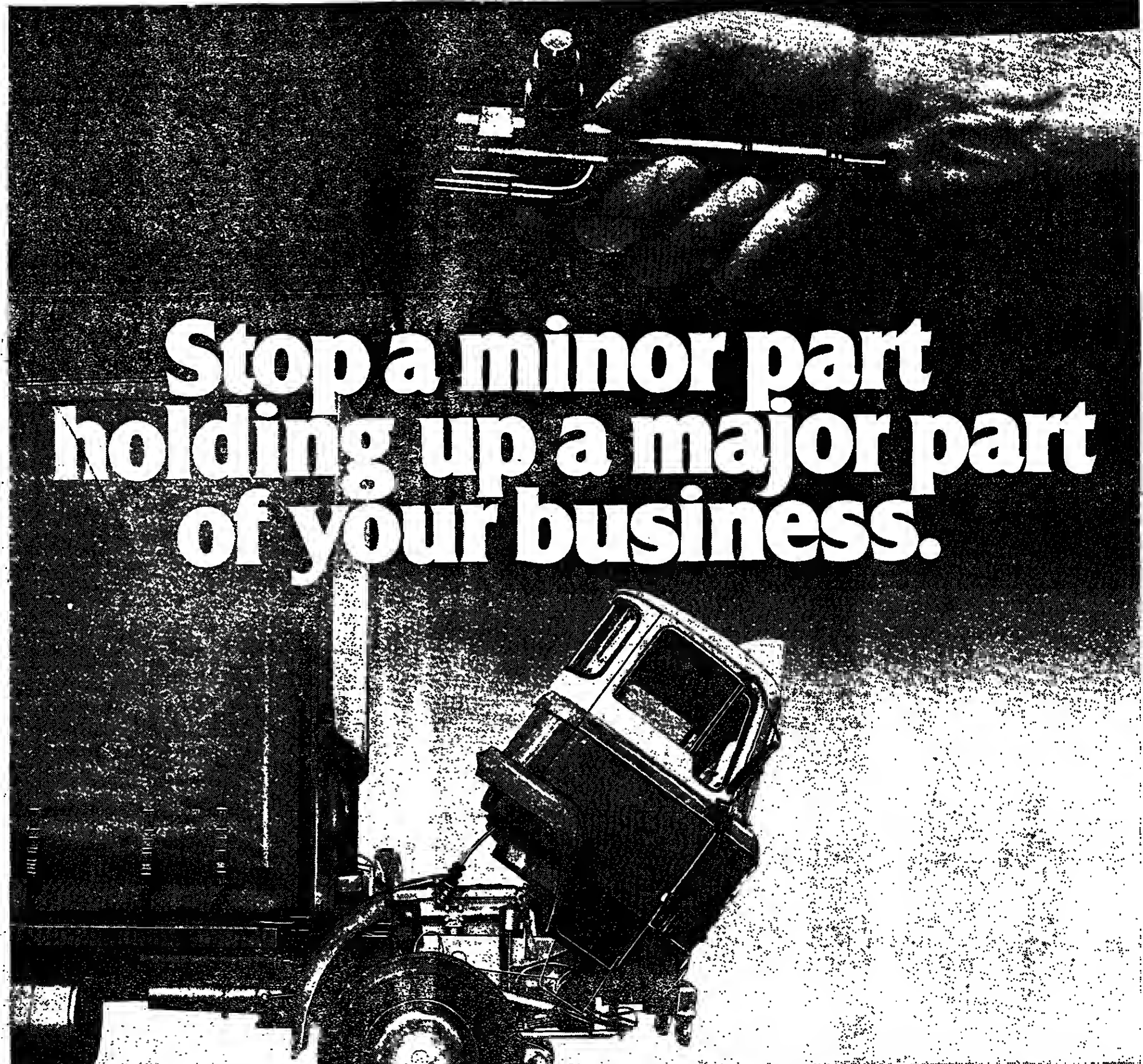
The Sbagart SA1000 provides five megabytes capacity for under £1,000 in one off quantities and there will also be a model offering 10 megabytes using two platters.

Main point made by CPU is that it is possible to simply replace their existing eight inch floppy drive with the new Winchester so as to upgrade the installation, without changes to the enclosure. Result is in-

creased capacity, faster access time and an overall increase in throughput.

Offering from BASF is in the larger size of 210mm and provides the user with the choice of eight megabytes and 24 Mbytes by means of either one or two discs per spindle. This unit also gives the user the high capacity and reliability of fixed disc working in a relatively low cost floppy-sized package.

CPU Peripherals is at Copse Road, St John's, Woking, Surrey (04862 79883) and BASF United Kingdom is at 2 Fitzroy Street, London W1 (01-637 8971).



Stop a minor part holding up a major part of your business.

However small the part, replacing it can easily throw a sizeable spanner in your works.

Unless you come to Lex Tilotson. We're Britain's largest distributor of Leyland commercial vehicles. With the largest number of available parts, stocked in depots running the length and breadth of the country.

So whenever and wherever you need any part—even if it's in the middle of the night at the back end of beyond—we'll do our utmost to find it for you.

At a speed no one else could match. Because we're adding our own innovation to the Tablet computer link with Leyland's giant central parts store.

It's an information-system unique to us, called PartFinder. It links all our Lex Tilotson depots with each other to locate parts in short supply. Especially those which proved such a devil to get hold of in the past.

PartFinder will prove most welcome when you call on NightWatch, our 24 hour breakdown service.

Because it gives your investment an added edge of protection. By helping to keep truck downtime periods as short as is humanly possible. And preventing minor mechanical problems from becoming major financial ones.



Lex Tilotson
Britain's biggest Leyland commercial vehicles distributor.

BRADFORD: 0274 683142/EMERGENCY 0274-72368. BRISTOL: 0272 677841/EM 0272 677840. DUNDEE: 0382 642271/EM 0382 81163. HALESOWEN: 038 482 2431 (24 HOURS). HULL: 0482 795311 (24 HOURS). MANCHESTER: 061 748 4033 (24 HOURS). NEWCASTLE-UPON-TYNE: 0632 669221 (24 HOURS). POOLE: 02013 78311/SOUTHAMPTON: 0703 864761 (24 HOURS). TAUNTON: 0623 81275/EM 0623 82150. WORCESTER: 0905 426515/EM 0905 422981.

electrical wire and cable?
NO MINIMUM ORDER NO MINIMUM LENGTH
ANXIR
Thousands of types and sizes in stock for immediate delivery
LONDON 01-561 8118 • ABERDEEN (0224) 724333
GLASGOW (041) 332 7201/2 • WARRINGTON (0525) 810121
TRANSFER CALL CHARGES GLADLY ACCEPTED
24HR. EMERGENCY NUMBER 01-537 3507 Ex. 409

Building and Civil Engineering

£8½m contracts for Gleeson

PRIDE OF place in £8½m-worth of new work won by companies in the Gleeson Group goes to a coal winning task at Hollybank, Walsall valued at £4m. For the NCE, the company will recover 270,000 tonnes of coal, as well as build foundations and roads for a coal preparation plant.

Herne Bay, Eastcliffe, Phase II is the designation of a sea defence scheme the company is to undertake at a cost of £800,000 for Canterbury City Council.

Ten groyves, aprons, concrete access way and wave walls will

be built over the next 12 months.

For Severn Trent Water Authority, a reinforced concrete reservoir will be built at Enderby, Yorkshire for a price of £380,000.

Work on another reservoir, worth £300,000 is for Central Regional Council, Lennox Town, Dumbart. It is for an extension to the Muirhead Reservoir in the form of a covered storage area.

Last of this group of five contracts to Gleeson Civil Engineering is a £145,000 job for the CEGB to extend existing offices

at Rugeley B.

A major task for Gleeson (Sheffield) is the £2,865,772-worth of work in Rotherham on the Civic Centre Phase II scheme. This is a five-storey office development and basement of about 7,000 square metres.

Site works, drainage and services have been included and Rotherham Metropolitan Borough Council expects completion in about 112 weeks.

The same affiliate has a £125,250 award from British Steel for a new ingot casting pit at Riverdon Works, Sheffield.

Two jobs in Kenya for Mowlem

BIGGEST CONTRACT in a group worth altogether £8.3m, awarded to Mowlem Construction Company of Nairobi, is a job worth £4m to protect the Tana Power Station from flooding. It comes from the Kenya Power Company and takes account of the fact that the level of the Tana River will rise with the construction of the Mazinga Dam and the formation of the Upper Reservoir.

Engineering and Power Development Consultants of Sidemp is the consulting engineer.

This group has specified the construction of an additional 50 foot reinforced concrete and earth and rock embankment around the station.

At Olkaria, where a 30MW geothermal power station is taking shape, the Mowlem associate company has been awarded a £3.2m civil engineering contract to set up a power house, ancillaries and steam pipe foundations to a scheme designed by Merz and McLellan in association with Virkirk Consultants of Reykjavik, Iceland.

The group is to build housing for staff associated with the geothermal project under a third contract and 85 dwellings are to be erected under a £1m award.

Irrigation projects

PROJECTS IN which Sir M. MacDonald and Partners are involved include a comprehensive feasibility study for irrigation-based development schemes in north-west Bangladesh and the Northern Plains Irrigation scheme in Mauritius.

The Mauritius scheme is designed to distribute additional water from the Nicoliere reservoir for irrigation of an area of 1,800 hectares in the north-west of the island.

Three contracts have been awarded. One worth £825,000 has gone to Mauritius Building Company and another worth

about £2.5m to Taylor Smith and Co. Both of these were awarded by the Central Water Authority Mauritius.

The third contract, worth £1.1m, has gone also to Taylor Smith. This was awarded by Irrigation Authority Mauritius.

In Bangladesh, MacDonald is to carry out a feasibility study for irrigation-oriented development schemes for three areas in the north-west. This is under an Asian Development Bank technical assistance programme.

The 2,100 square kilometres to be covered by the study are about 320 km from Dacca.

New housing estate

FIRST PHASE of a new housing development on the outskirts of Faversham, in Kent, is to be built under a contract worth nearly £2.4m awarded to John Laing Construction's southern region.

In the first phase, 22 two-storey houses and 59 flats in two-storey blocks, plus one shop unit, will be built on a 12 acre site at Bysing Wood Road, north-east of the town centre, for the Moat Housing Society which will eventually provide a total of 360 homes on the site.

Homes are timber-framed and designed by the National Building Agency for the Society. The houses will have tiled, pitched roofs and cladding of facing brick and concrete tiles.

Work starts soon and is due for completion by 1981.

Architectural and engineering services are being provided by the National Building Agency and quantity surveyor is I. N. MacLaren and Associates.

£7½m naval base work

IMPROVEMENTS TO a jetty and new buildings at the naval base, Portsmouth, are to be undertaken by Bovis Civil Engineering under a £7½m contract awarded by the Property Services Agency.

Work on the jetty entails converting four wharves into a single mooring berth, 270 metres long. Steel tubular piles, 500 and 600 mm in diameter and up to 33 metres long, will be driven into the seabed to support a 600 mm deep, reinforced concrete slab deck of 13,000 square metres.

A two storey office block, single storey workshop, stores and diesel storage tanks will be built on the shore end of the wharf, supported on in-situ concrete piles of 1,200 mm diameter, sunk to a depth of 20 metres.

Bovis Construction has work worth about £1m awarded by the Dickinson Robinson

Group to extend production facilities at the latter's thermoformed plastics packaging factory in Station Road, Yate, Bristol.

Work includes construction of new access road, car parking, landscaping, and the diversion of existing services.

£3m worth to B. B. Kirk

alterations to existing premises for Vokes, Burnley, worth £200,000; and a further factory for E.L.E.C. at Clitheroe, for £130,000.

Civil engineering work includes the completion of water treatment works for Harlow Hill, Harrogate, worth £640,000, for the Yorkshire Water Authority, north central division; two small contracts for the North West Water Authority, Pennine division at Whitworth and Westhoughton, Lancashire, totalling £294,000; and pipeline compounds for ICI in Yorkshire and Lancashire valued at £75,000.

Industrial estate in Essex

JARTAY DEVELOPMENTS has secured design and construction awards for phase 3 on the Essex County Council's industrial estate at South Woodhatch, Ferrers, with a total investment value of £1.3m. Construction is due to start at once and comprises 5,220 square metres of mixed sized units. Completion is for September next year.

In parallel with this project, the company has begun site construction work on the next phase (1a) on its own trading estate at Thelwall Lane, Warrington. Development has been the subject of a Forward Sale Investment to the Northern Foods Pension Trustees, total value of the purchase being £245,000.

FORK LIFT TRUCKS

We are looking for export orders for the Sale of 100 used Fork Lift Trucks.

Finance and deliveries arranged worldwide.

BIRMINGHAM FORK LIFT TRUCK LTD.

4-9 Harps Road, Salford, Birmingham, B8 1DU.

Tel: 021-327 5944/5 Telex: 337052

COST DATA FILE for the building industry

Cost Data File for the building industry, published and updated monthly. Measured rates in accordance with S.M.E. Prices given for measured rates for both simple and other work, material prices at large and small order levels.

The first issue of CDF will be published in January 1980

Senders can subscribe to CDF at the pre-publication cost of £30 p.a. Please write or phone for further information to: Red CDF, 4 Adelaide Salop Place, London W14 9NS Tel: 01-803 4557

A mix of work for Wimpey

LUTON OFFICE of Wimpey has taken a job worth over £2.7m from General Motors for the construction of a central office block at Brickhill Street, Milton Keynes.

The three-floor structure will provide about 7,000 sq metres of new accommodation and it will be built in situ reinforced concrete enclosed in brickwork.

A £2m contract for the Nottingham office of Wimpey is from Peterborough Development Corporation for 210 dwellings at Warrington.

Construction has started of a mixture of houses, flats and bungalows in timber frame design with components supplied under the current Midland Housing Corporation programme. In general, the cladding is in brickwork and/or timber.

Peterlee Development Corporation, Co. Durham, has awarded a further contract for the construction of advanced factories on the south west industrial estate at Peterlee. This work is valued at about £500,000 and comprises the erection of seven workshop units and 12 starter units in four separate blocks.

Newcastle office of Wimpey has won a £467,000 contract for the construction of facilities at Waverley Winery, Feltham Industrial Estate, Tyne and Wear, from Scottish and Newcastle Breweries. It includes the construction of a wine bottling line, open plan offices, caged stores, freighter entrance, and modification of ramps for dock levers.

An exhibition of low-energy

houses has been set up on a private development estate at Selsdon, near Croydon, Surrey, by Wimpey Laboratories.

Houses similar in concept and design to those at Selsdon would reduce fuel consumption by about 50 per cent because of the inclusion of several features which were non-standard when the houses were designed, says the company.

These include increased loft insulation, draught-stripped doors and windows, and low output heating systems geared to the reduced demand. Such features are now incorporated in Wimpey basic house specifications and other benefits, like cavity-filled walls, are being offered to purchasers as optional extras.

Marshall gets over £3m

INDUSTRIAL and commercial contracts recently awarded to Marshall Construction Group, Eiland, total over £3m.

A design and build award for the new office and laboratory complex at Holywell Green, Stainland, for Hoechst UK, is worth more than £1m. This will provide 35,000 square feet of high quality accommodation to bring together the research and development departments, and the sales and administration divisions, to form a new northern regional centre for Hoechst.

The two-storey structure will have a pre-cast concrete frame and be clad externally with stone-coloured exposed aggregate panels and have anodised aluminium door and window frames. The site will be completed with service roads, car parking areas and extensive landscaping.

Work has just started on two

large industrial projects, each worth about £1m, in Bradford. One is a single and two-storey factory warehouse and offices for Seabrook Potato Crisps, and the other comprises three large speculative industrial units at Airedale Park, Shipley, for Contregrate Properties of Leeds.

In Leeds centre in Oxford Place work has started on the demolition of buildings prior to the erection of a prestigious four-storey, in situ concrete office block for occupation by Simon Houston and Partners, estate agents, under a £200,000 contract.

Work has also commenced on repairs to United Biscuits' at Ordsell, following a fire in the paper and packaging department.

Additional work on the Epsom Estate at Bradford is worth over £300,000, for a new factory and warehouse and office block for Insulated Systems and Machines.

Three tasks for Monk

CHESHIRE, BERKSHIRE and North Yorkshire are three counties in which civil engineering contracts have been awarded to A. Monk and Company, totalling £1,261,000.

Downstream at Runcorn Docks, a £179,762 contract has been awarded by Manchester Ship Canal Company for constructing a mass concrete wall forming a closure of Western Mersey Lock.

Nearby, at Frodsham, further work for M.S.C. Company, valued at £200,000 is for raising the embankment of No. 5 deposit ground.

In Reading, Wimpey Construction (UK) has accepted a £354,950 tender for the foundations, sub-structure and floor slab to a Digital Equipment Company office. Consulting engineers are Arup Associates.

At Selby, two projects totalling £262,294 have begun at Whitewater comprising site roads, stockyard, explosive store, car park and services distribution for the National Coal Board. Consulting engineers are W. S. Atkins and Partners. Also at Whitewater, Monk is to carry out civil engineering works to electrical ducts, drainage and walkway ducts for Thyssen (Great Britain).

CRENDON CONCRETE FRAMEWORKS

The right way to build

FACTORIES OFFICES & WAREHOUSES

CRENDON CONCRETE CO. LTD

Long Crendon Bucks, Tel: 208481

Offices in London

WORKING £4.5m a contract has been awarded to Norwest House, southern region, by European Ferries for the demolition of existing premises and construction of a six-storey air-conditioned office building with basement and sub-basement at Crosswell, London, EC3.

Demolition work is now completed and work has just started on the construction.

Architect is Joseph and Partners; quantity surveyor Norwell and Partners; consulting structural engineers Brian Griffiths and Associates; and building services engineer Messerve Associates.

Completion of the project is due on March 1, 1982.

Furniture warehouse

BUILDING WORK to about £2m has been secured by J. F. Finnegan for a large depot complex at Northampton for MFI Furniture Group.

Site work is already under way and involves the laying of over 1m sq ft of concrete (more than 23 acres) of which 610,000 sq ft will be under cover with brick faced perimeter walls. Completion is required quickly, the contract period being compressed into 42 weeks—said to be a remarkably short time for such areas of concrete and building.

When completed the complex will provide the central warehouse for MFI, a leading retailer in the UK of self assembly furniture. Also included in the completed scheme will be MFI's largest UK showroom, covering 15,000 sq ft, together with offices, a print studio, quality control and spare parts store.

Preparing the ground

CENTRAL LANCASHIRE Development Corporation has awarded a £389,320 contract to Kennis Civil Engineering, Wythenshawe, Manchester, for forming part of the initial contract, a bridge over the River Lostock, to prepare the way for housing and industry in parkland and other open spaces.

New housing is planned for about 34 acres, and a further 24 acres are earmarked for light and general industry and warehousing.

South Ribbles Borough Council, assisted by the Corporation, is already carrying out housing and environmental improvement projects in the Ward Street area

to the north and the new scheme, resulting from discussions between the Council and CLDC, will complement these.

Forming part of the initial contract, a bridge over the River Lostock will carry a new access road linking up with the Farington link road to the south. This will keep industrial traffic out of the older housing areas and improve traffic conditions and safety on Watkin Lane.

There are also another 10 acres allocated for major open space—some of which will serve the district as a whole—including kickabout and play areas, parkland, trees, footpaths and allotments.

Design and build projects

PERSTORP FERGUSON'S continued expansion on its Aycliffe, Co. Durham, site has brought it to place a 34-week contract with Shepherd Building Service who will supply all design and build requirements, bringing the total value of work undertaken there to a figure above £1m. Presently a further extension of the moulding compound capacity and the construction of an office and laboratory building are in hand.

At York, work has started on two other major design and build projects: a one-year £765,000 scheme to carry out alterations to storage premises of confectioner Rowntree Mackintosh; and a £1m warehouse extension for printer Ben Johnson and Co.

Work is being completed on another Rowntree project at Fawdon, where Shepherd has been responsible for a new lorry dock and rail bay which will take the new British Rail Super-vans.

Pipework worth £2m

MECHANICAL CONSTRUCTION contract for the new benzole refinery for British Steel Corporation (Chemicals) at Port Clarence Works, Middlesbrough, Cleveland, calls for £2m worth of pipework which is to be supplied by Capper Service Company (Northants).

Orders have been placed by Redpath Dorman Long (Contracting) and the work consists of the installation of some 50,000 metres of carbon and stainless steel service and process pipework and associated mechanical equipment.

BC Base Rate

BANK OF CREDIT AND COMMERCE INTERNATIONAL S.A.

announces that from 17th November 1979 its base rate is changed

from 15½% to 17% p.a.

100 Leadenhall Street London EC3A 3AD

THE ELECTRONIC EIGHTIES

WILL START JANUARY 9

The first Electronics Weekly of the new decade—a major issue based on months of worldwide fact gathering—will tell you precisely what's ahead—in ten major areas:

- SEMICONDUCTORS
- TELECOMMUNICATIONS
- COMPUTERS
- RADIO COMMUNICATION
- DEFENCE
- COMPONENTS
- INSTRUMENTS
- CONSUMER PRODUCTS
- INDUSTRIAL ELECTRONICS
- MEDICAL SYSTEMS

One thing is certain about the new decade: it will be electronic. Electronic in its advances. Electronic in its challenges. And producing a growth in the electronic market eclipsing everything that we have so far experienced.

Which products and technologies will dominate? Who will be the world electronics leaders? What are the greatest opportunities—and the hardest decisions—that lie ahead? Electronics Weekly's expert team of staff editors are currently touring the world in search of the answers. The result—on January 9, 1980—will be the most important issue in our history.

Advertise in it—and you reach the highest paid-up weekly circulation, and the largest readership, in the electronics press... when reader interest is at a unique peak. Read it—and you'll enter the electronic eighties fully alive to what they'll mean for you, for your industry, for Britain and for the world.

Electronics Weekly

RESERVE YOURSELF A COPY OF THIS SPECIAL ISSUE NOW!

At your newsagent's—or in case of difficulty, contact Marketing Dept., Room 625A, IPC Electrical-Electronics Press, Dorset House, Stamford Street, London SE1 9LU. Tel: 01-261 8457

Advertisers please contact:— Brian Moloney, Display Advertisements Manager, or Brian Durrant, Classified Advertisements Manager, Electronics Weekly, Dorset House, Stamford Street, London SE1 9LU. Tel: 01-261 8000.

IN BRIEF

- Marchesi Holdings has won a £250,000 contract for the sale of five luxury bungalows to Murray Clayton for erection in Leyba.
- Blson Concrete is supplying and erecting a precast concrete frame and floors for a pathology laboratory at North Middlesex Hospital, Edmonton, North London, to a value of £136,844, for North-East Thames regional health authority.
- A £100,000 contract for the construction of a new livestock building on the East of England showground at Peterborough has been awarded to English Bros., timber company of Wisbech, Cambs.
- Work has started on a 2,500 sq metre single-storey factory and a two-storey office block in the Grange Employment area of Warrington under a £618,000 contract awarded to Farrow Construction for BICC.
- One-day course, "Building on Shrinkable Clay" has been organised by the Brick Development Association for the eastern region of RIBA at Churchill College, Cambridge, on Tuesday, December 11. Details from BDA, Woodside House, Winkfield, Windsor (034 47 5551).
- A contract valued at around £1m to refurbish part of Suffolk House at Laurence Pountney Hill in the City of London has been awarded to Holloway White Allom—a member of the John Laing Group—by Midland Bank. Work has started with completion expected by July 1980.

Pick up the facts on Merseyside

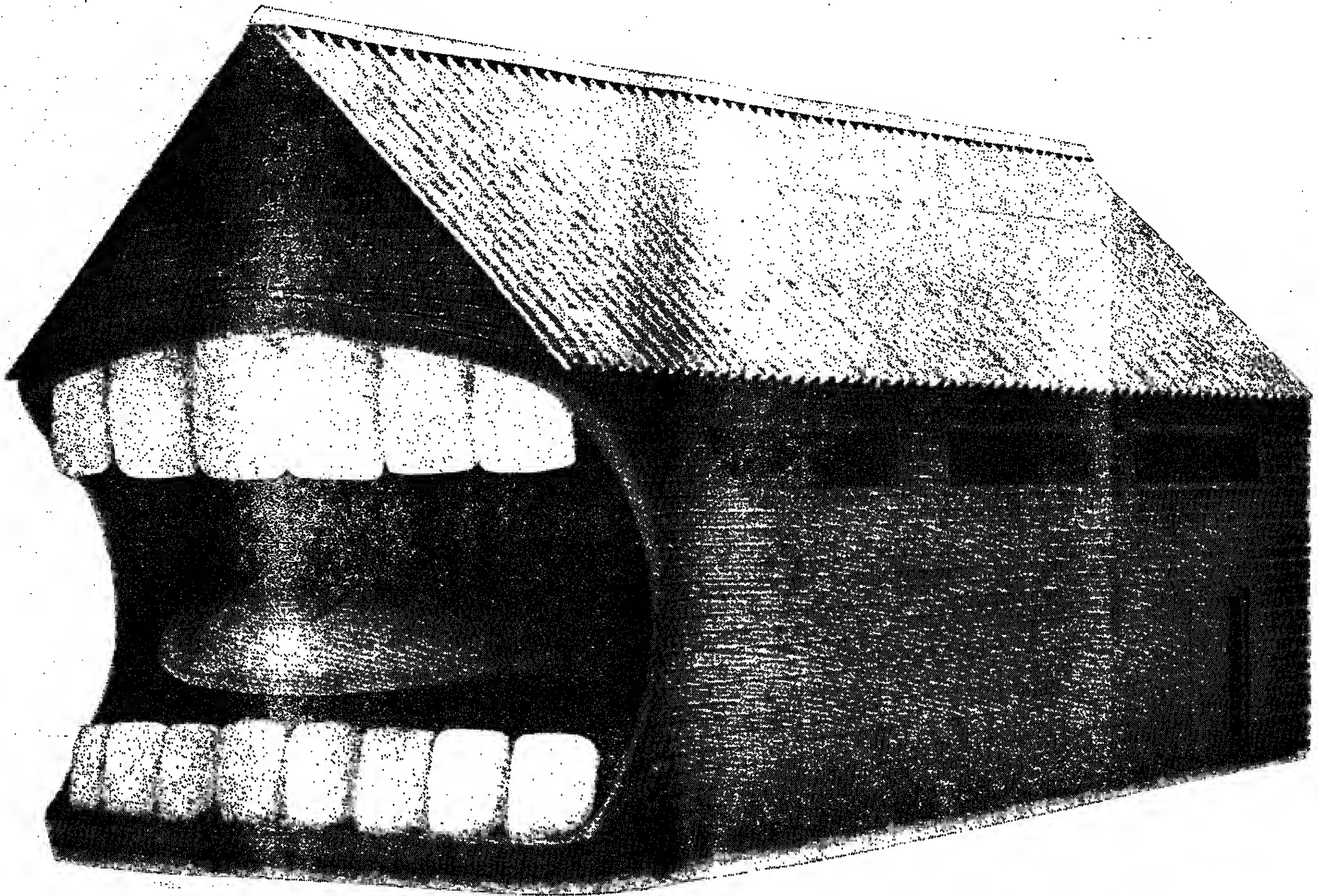
What do you know about Merseyside? Or think you know? Just how inviting are the financial incentives and are they available to Service Industries as well as manufacturers?

What special help can Merseyside offer small businesses? What about labour relations on Merseyside?

And what about Merseyside as a place to live? You've it to yourself to find out the facts of life on Merseyside. Pick up the phone and ask for The Industrial Liaison Service; they'll be only too pleased to send you our pack of brochures.

051-227 5234

Credit to MERSEDO (Merseyside County Economic Development Office) Three Corns House, Trafalgar Street, Liverpool, L2 2PL.



It swallows 50% of the average company's profits.

Whatever you make or sell, it's a fact of life that you have to pay for storage and materials handling.

The question is, need you pay as much as you do? The answer is, no.

For a recent survey by the Department of Industry showed that every company examined was paying more than it need.

The average cost was 5% of turnover.

Which represents half the average profit made by industrial companies.

Now look at four examples of companies which called in Dexion, and the savings they made:

1. Storage capacity up 50%, no increase in floor area, order picking times down 20%, estimated payback, 2 years.

2. Storage capacity up 40%, floor area down 50%, cost per pallet down 50%, estimated payback, 2½ years.

3. Value of stockholding levels down £50,000.

4. Storage capacity up 50%, no increase in floor area, overheads down 30%.

If you'd like to know how much you can save, we'll be happy to look at your storage and materials handling system and tell you how it can be improved.

And although we make and sell a wider range of storage equipment than any other company in the world, we won't recommend any of our own products unless they provide the best solution.

In the meantime, you can read detailed case-histories by sending for our 'Book of 100 Answers'.

Next year, there could be more of your money in your business, and less in your warehouses.

 **DEXION®**

We'll help you make money out of thin air.

COMPANY NOTICES

GERMAN GOVERNMENT INTERNATIONAL 5 1/2% LOAN 1980 (YOUNG LOAN) CONVERSION BONDS

As a result of the entry into force on 1st April 1978 of the second amendment to the Articles of Agreement of the International Monetary Fund...

BRASILVEST S.A. SOCIEDADE DE INVESTIMENTO

NOTICE IS HEREBY GIVEN that the Administrative Council of the Company has resolved on the recommendation of the Board of Directors...

INSURANCE

No quid pro quo for transport bill

BY OUR INSURANCE CORRESPONDENT

IN THE British motor insurance market, which now counts its total premium income in excess of £1bn, and eternal truth stands unchallenged—that the more things change the more they stay the same.

Back in the summer insurers were hoping for some offset next year by way of a reduction in accident and injury incidence stemming from seat belt and drinking-driving legislation.

But if there is to be further consultation, perhaps the Minister and the rest of us, should think not only about the enforcement of new traffic laws but the status of those laws from the average citizen's viewpoint.

Can it really be right to allow the offending motorist to mitigate the penalty the criminal law imposes by the purchase of cover to obtain, for example, a chauffeur-driven car during the disqualification period?

This important legal-moral issue should be resolved, but I fear that once again it will be brushed under the carpet.

GENERAL MOTORS CORPORATION

NOTICE IS HEREBY GIVEN that resulting from the Corporation's Declaration of a DIVIDEND OF \$1.50 (gross) per share of the Common Stock of the Corporation payable on 10th December, 1979, there will be made a distribution of \$1.50 (gross) per share of the Common Stock of the Corporation...

CAVENHAM INTERNATIONAL B.V.

NOTICE IS HEREBY GIVEN that the Board of Directors of Cavenham International B.V. has resolved to pay a dividend of 50% of the net profit for the year ended 31st December 1978...

NOTICE OF AMENDMENT TO NOTICE OF CONVERSION

NOTICE IS HEREBY GIVEN that in pursuance of the provisions of the Companies Act 1967, the Board of Directors of the Company has resolved to amend the Notice of Conversion...

DIAMOND CAPITAL LTD.

A special meeting of shareholders of Diamond Capital Ltd. will be held on 13th December 1979, at 10 a.m. at the offices of the company...

Transport Bill

Insurers recognise that there is a measure of technically unlawful car sharing at present, and that the Bill will in part only legalise current practice, but clearly car sharing could be given a further and substantial boost next summer.

Transport Bill

Insurers recognise that there is a measure of technically unlawful car sharing at present, and that the Bill will in part only legalise current practice, but clearly car sharing could be given a further and substantial boost next summer.

More sharing

But if there is to be further consultation, perhaps the Minister and the rest of us, should think not only about the enforcement of new traffic laws but the status of those laws from the average citizen's viewpoint.

APPOINTMENTS

Mr. J. C. R. Downing, a director for six years, has been appointed executive chairman of BEECHWOOD CONSTRUCTION (HOLDINGS) THOMAS, who has relinquished that position but remains an executive director.

Beechwood Construction chairman change

Mr. J. C. R. Downing, a director for six years, has been appointed executive chairman of BEECHWOOD CONSTRUCTION (HOLDINGS) THOMAS, who has relinquished that position but remains an executive director.

Services, units of its printing division. He succeeds Mr. David Tidmarsh, who has become joint managing director of Begrose Advertising Products with Mr. Keo Clark, who is to retire during 1980.

Mr. E. Bruce Kitchen has been appointed finance director of FYNFORRESTS, a member of the Metshillito Group.

Mr. John Bottom has been appointed managing director of SELKIRK METALBESTOS EUROPE, a division of Wallace Murray. He was previously marketing director. Mr. Richard Harvey has been made divisional director marketing and Mr. Brian Cosh, divisional director manufacturing.



Mr. J. C. R. Downing becomes chairman and Mr. D. M. H. Rooney (BICC), vice-chairman, of the Export Group. Re-appointed honorary treasurer is Mr. R. E. A. Aldred of Taylor Woodrow.

DIAMOND CAPITAL LTD. (Continued)

NOTICE TO HOLDERS OF CURRENT INTEREST IN "NON-INVALIDATED" BONDS (DRAWN) 1978-79

LONDON BRICK COMPANY LIMITED

NOTICE IS HEREBY GIVEN THAT—1. The Transfer Books and Register of the Company will be closed on 30th December, 1979.

EXHIBITIONS

THE SOMERSET HOUSE ART TREASURES EXHIBITION, Somerset House, Strand, London, WC2R 1LE. 22 November to 9 December (Private View 21 November).

CONFERENCES HOTELS

EXECUTIVE SUITES OF MAYFAIR. Visiting London on business or pleasure? Why not stay at our superb, exclusive guest house at 19 Charles Street, Mayfair.

MOTOR CARS

WADHAM STRINGER

ROLLS-ROYCE

Official Distributors for Rolls-Royce and Bentley.

1975 Rolls-Royce Corniche. Athenian Blue with Pale Blue Everflex roof. Beige hide interior trim. Oca owner, 21,000 miles recorded. £33,990

1975 Jaguar 4.2 Auto. Fern Green with tinted glass, PAS, P registration. £3,995

1976 Jaguar 4.2 Auto. Lavender with Biscuit leather, air-conditioning, chrome wheels, P. registration. £5,695

1978 Daimler Sovereign 4.2. Juniper Green, S registration. £8,995

1979 Jaguar 5.3 Auto. BR Green, T registration (leaseable). £11,250

1978 Princess Special Six Auto. Black, sunroof, tinted glass, PAS, S registration. £3,595

1975 Rover 2200 TC. Black cloth interior, P registration. £2,495

1976 Rover 2200 SC. Yellow, Black leather interior, radio, R registration. £2,495

How we should go about saving energy.

It helps to leave the car behind and take the train instead. That way we help ourselves by conserving petrol. And the nation by conserving its supplies of North Sea oil. Because as fuel everywhere gets scarcer, we'll have to use less of it in travelling. At present, the railways consume only five per cent of all the energy used in the UK by transport as a whole. Yet they account for seven per cent of all passenger miles. So you see, there's no better way to go about saving energy than the railways.



British Rail The backbone of the nation

INVEST IN 50,000 BETTER TOMORROWS! 50,000 people in the United Kingdom suffer from progressively paralysing MULTIPLE SCLEROSIS—the cause and cure of which are still unknown—HELP US BRING THEM RELIEF AND HOPE.

THE MANAGEMENT PAGE

EDITED BY CHRISTOPHER LORENZ

Can Singer stitch itself together again?

One of the oldest American-based multinationals is being restructured for the second time in four years. Ian Hargreaves reports

ALMOST exactly four years ago, Joe Flavin cleared his executive vice-president's desk at Xerox and headed for midtown New York, to take on his new role as saviour of Singer.

Two years later, the headlines proclaimed his victory: "The story of a turnaround." A textbook example of saving a firm from near disaster," as two of America's most distinguished dailies put it. Flavin himself proclaimed 1977 the "banner year," declared it the end of Singer's bloody restructuring period and set the revitalised company four targets for what Flavin called the "development period" of 1978 to 1983.

At the time, the targets seemed modest. They were for revenue growth of at least 10 per cent a year, operating income to rise to 10 per cent of annual sales, debt equity ratio to be reduced to 0.6 to 1 (at one time it was more than 2 to 1), and the achievement of an "A" credit rating for the company's funded debt.

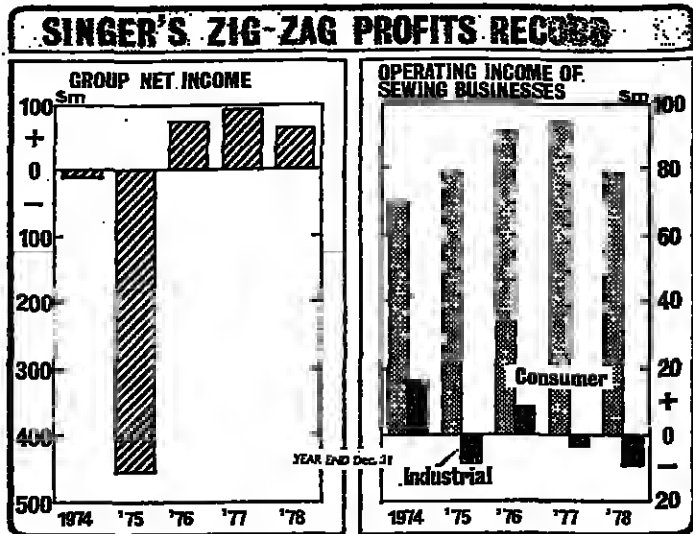
History has a way of rewriting such scripts. Today Singer stands chastened and Flavin is back with his restructuring programme.

In the past few days the U.S. credit rating agencies have again cut Singer's credit rating to its pre-Flavin level, making it costly, if not impossible, for Singer to raise long-term loans. The company has also just reported a \$178m loss for the first nine months of 1979 on sales which were stagnant in real terms at \$1.9bn. Not surprisingly, any progress being made on the debt equity ratio has also gone out of the window and Singer has been forced back to its short-term lenders, the banks, for a new revolving credit package at a time when U.S. interest rates are running at record levels.

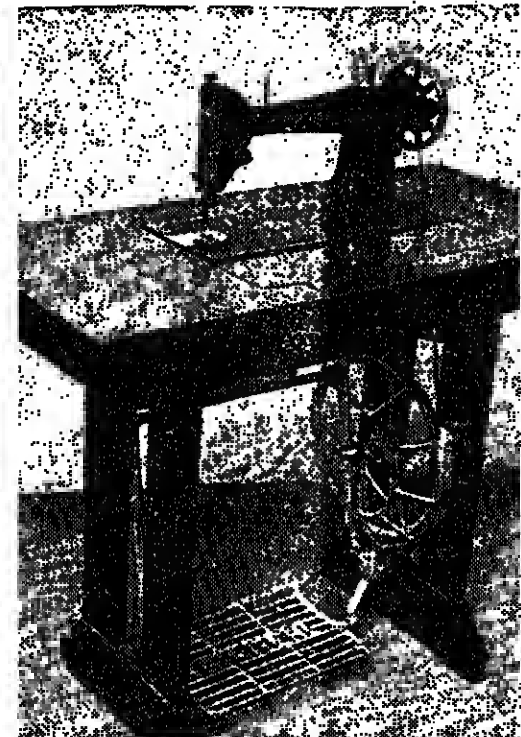
An early casualty of this traumatic reversal of fortune was Singer's sewing machine factory at Clydebank in Scotland, and its 3,000 workers. There will be many more casualties in the next two years as Flavin acts to cut jobs, increase productivity and lift the utilisation of manufacturing capacity from its present dismal average of 50 per cent in the Singer sewing machine factories of Italy, France, West Germany and North America.

A proposal to halve the West German workforce has already been made to the company's trade unions in that country. What went wrong? Flavin cannot claim that the past four years have seen general economic pressures or that unpredictable changes occurred either in Singer's markets or its competitive environment. The obvious conclusion is that Singer's problems are the legacy of more than ten years during which the company has committed just about every basic business error in the book. Here are a few examples—

1—Singer failed to respond to the growth of lower cost competition in the Far East, beginning with Japan more than 20 years ago. It has gathered pace with the entry into the sewing



Joe Flavin (left) joined Singer four years ago from Xerox as chief executive. He began turning the company round but it has now slumped back into the red because of trouble in its most basic business: consumer sewing machines. Sales of domestic sewing machines in the developed world have halved since 1972, to a large extent for sociological reasons. Singer has been trying hard to attract customers with its multi-function electronic machines (right). Meanwhile sales of traditional machines are thriving: made in Taiwan, these treadles are in demand all over the third world.



machine industry of Taiwan. Singer transferred some of its manufacturing to lower cost countries in the developing world, but completely failed to control costs and efficiency at its crucial European and American plants.

2—Diversification seemed an obvious answer for a one-product company in the late 1960s, so Singer diversified. But it did so with the finesse of a game of Blindman's Buff. It also spent money it did not have on diversification, thus taking the level of company debt to over \$1bn—more than double shareholders' funds, on the eve of Flavin's arrival.

3—Capital investment was neglected in the basic sewing business. Between 1976-78 Singer provided for over \$80m in depreciation for its sewing business assets. It spent \$74.7m in those three years on actual capital investment at a time when its markets and technological superiority were under vigorous attack.

4. As one of the first U.S. multinationals, Singer allowed its operations to spread globally in a pattern which often lacked both logic and control, and created subsidiaries in 35 countries. Management control weakened and so did the balance sheet, particularly through Singer's inability to manage the complexities of the foreign exchange problems this global sprawl created. In the five years to 1978, Singer lost \$81m in foreign exchange adjustments falling to make a gain in any one of those years.

5. Singer adopted and stuck to a style of retailing, which even

monopolies such as Britain's Gas Board has found cumbersome and inflexible in recent years. The company's long retail chain of wholly-owned sewing centres has not been outstandingly successful in selling sewing machines and they were a disaster when Singer tried to sell other products through them in the early 1970s.

6. Singer failed to research basic markets, such as the use of sewing machines in the developed world. Two years ago even Flavin was talking of the "demographic and personal income factors in the U.S." which would increase sewing machine sales in the late 1970s and 1980s. In its announcement of the Clydebank closures, Singer laid most of the blame on a 50 per cent drop in this U.S. market since 1972.

Catalogue of blunders

Lawrence Mitchell, the company's vice-president for public affairs, says it is impossible to judge when the market will bottom out, and he admits that the company's marketing men still lack any clear idea of how they can reverse the trend.

Historical context, of course, is important in explaining this remarkable catalogue of blunders. The sins of ill-advised diversification were the work of Flavin's autocratic predecessor, the late Conel Kircher. It cost Flavin a \$431m write-off within months of his arrival to prepare the ground for straightening out 22 acquisi-

tions in fields as various as business machines, air-conditioners, furniture, mail order and aerospace electronics, again with a global spread. The principle of diversification for a company like Singer was unchallengeably correct, but the most expensive buys, the electromechanical business machines operation was caught in the electronics boom and found itself requiring a development budget and level of vision way beyond Singer's means.

Flavin's big achievement has been to sort out these non-sewing businesses, a task for which his experience at Xerox, and before that at IBM, ideally suited him.

He sold the worst cases such as business machines and Italian washing machines, and then set about whitening away at the debt problem, as the balance sheet became stronger, by substituting long-term debt for short-term loans with floating, and therefore difficult to manage, interest rates.

The result is that Singer today has two non-sewing divisions. The larger is its consumer products sector, which includes furniture, power tools (Singer claims to be number two in Black and Decker), air conditioning and meters. Then there is a pleasantly stable luma of technology-rich government contract work in aerospace and marine electronic products. Together the non-sewing areas accounted for half of Singer's sales last year and over 60 per cent of its operating income. "These businesses are doing well and will continue to do

well in the future," says Flavin.

Some Singer analysts agree and believe that now Flavin has moved, however belatedly, to tackling the sewing problem, he will have similar success. Some analysts are even calling it one of the hottest tips for the New Year because the company's shares are trading at around their par value of \$10 each, giving the company an absurd market valuation of \$170m. The same factors technically make Singer a high risk candidate for takeover: except that a suitor would require an exceptionally large sum to absorb what is still well over half a billion dollars of debt.

Much to the irritation of Singer's marketing men, who are eager to push the image of a brave new Singer beyond the sewing machine, the question still has to be asked whether the bedrock business can be turned round at this stage. It has to be admitted that Flavin's predecessor had much more success than Flavin in selling sewing machines, reversing Singer's declining market share in the U.S., where its only significant competitor is the Japanese-made machines retailed by Sears Roebuck, the retail giant. Kircher pulled Singer's share back above 40 per cent against an estimated 30 to 35 per cent now.

It also has to be explained why Flavin, who still appears to retain the confidence of his directors, his bankers and, not least, himself, did not act sooner. So far, no one has produced an entirely convincing answer.

The most obvious defence is that Flavin was too tied up sorting out the other side of the company, but in the last two years this has ceased to be a valid response. Another suggestion is that Flavin was too bumble and too kind to interpose himself between the senior men who apparently knew the world's biggest sewing machine business from top to bottom—at any rate until certain key retirements took place. A third is that, like the other directors, Flavin looked at the facts the company had gathered about its market and operational performance, but simply failed to see how sharp the decline was and the seriousness of not acting at once.

Had its chance

Whatever the reasons for the delay, Flavin now has his second restructuring programme in full swing. This involves putting all the sewing machine production centres through rigorous investigation; and instituting a new trial period. If they cannot match competitors' costs or operate profitably in their own markets they will be reduced in size or even, like Clydebank, which was deemed to have already had its chance, face closure. Meanwhile, the company will expand production in South America and the Far East. Flavin also plans to cut the number of Singer sewing centres in the U.S. alone from 950 in 1977 to 750 by the end of this year, with more closures

and don't much want to sew in the evening.

Hope is that this sophisticated end of the market can be attracted in increasing numbers to Singer's fancy multi-function electronic machines which sell for over \$1,000 each.

It is interesting to note, however, that in spite of the 50 per cent drop Singer says it has seen in the U.S. sewing machine market since 1972 (it won't quote the actual figures), the value of sewing machines sold in the U.S., virtually all of which are Singer products, has doubled to \$305m. The growing value of products therefore has not prevented Singer's slide into losses on its U.S. sewing operations, indicating the presence of fundamental cost-price and production management problems.

The impression that Singer has some hitherto intractable problem on its production side is supported by the company's performance in the industrial sewing machine business, where its market share has slithered and where it has made losses for three of the last five years. This is in spite of a determined attack on the market with a new and sophisticated product, the Centurian, which Singer has struggled to produce in sufficient quantities and at the right quality and price.

Singer also places great faith in its ability to hold its strong position for sewing machines in third world markets, where even its Taiwanese treadle machines of the kind popular in pre-war Britain, are still selling. But if the developed world market really is declining at the pace Singer suggests, it is bound to face increased competition in these smaller markets too; currently they account for just over a third of its estimated 2.5m sewing machine sales each year.

There must also be a big risk that a Singer struggling with its core business, and short of cash, could run into recession problems with its other consumer businesses in the course of 1980.

When it comes to Europe, Singer admits that it does not know where the low point, either of its sales or manufacturing capacity will fall. It is conscious of the dangers of spreading its reduced manufacturing requirement too thinly, painfully aware of the exchange problems still being aggravated by a weak dollar and open to the suggestion that perhaps it is no longer big and strong enough to sustain a European manufacturing presence. At the same time, like other non-European companies, it is well aware of the political difficulties it could face in shipping in cheap Far East-produced hardware in competition with Italian or French machines.

As for Scotland, Singer leaves behind it a rambling, outdated building echoing with broken expectations. At the age of 128, Singer is entitled to remind sceptics of its staying power. But it is now taking its second bite inside five years at setting its house in order. It cannot expect a third.

Pakistan International to the Middle East. It's just like coming home.

You know the feeling. It's a warm smile. A relaxed atmosphere. A lot of caring. You can be yourself. Just like home.

We have regular scheduled flights to the Middle East, covering Cairo, Dhahran, Tehran, Damascus and Dubai.

Contact your Travel Agent or phone us at 45 Piccadilly, London W1 on 01-734 5544 to find out more about Pakistan International's worldwide service, covering over 60 destinations.

Wherever you fly with PIA you'll feel you're coming home.

PIA
Great people to fly with



Get your dictation on the dot with Philips 300 range.

Now a lot more letters are going to catch the post a day earlier.

A lot more top men are going to get their executives' reports on time.

There is going to be a lot less "aggro" between those who dictate the letters and reports and those who have to transcribe and type them.

All thanks to the rows of dots on Philips new Mini-cassette 2.

These are the rows of dots that make this new cassette and the Philips 300 Range the biggest advance in dictation/transcription equipment since Philips first introduced the Mini-cassette.

It is built-in indexing that makes this such a great advance in time-saving efficiency.

No scraps of paper to remember, but an index that's made with the recording and re-usable as often as the tape itself.

Press a button on your 300 Range microphone and you place the dots which tell the transcriber where each piece of dictation starts and finishes.

Another press and another row of dots indicates that there's a special instruction or message coming up.

When the Mini-cassette 2 is used with top-of-the-range 303 dictation/transcription machine or the 304 transcriber, there's electronic as well as visual indication, with automatic place-finding.

Mark and Find is only one of the new ways the 300 range will add to the cost-efficiency in your office.

Fill and post the coupon for details... today.

Simply years ahead.

Please send me more information about your range of business equipment.

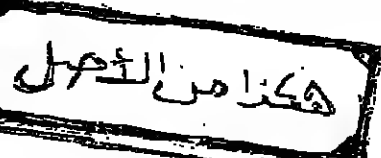
Name _____

Address _____

Tel: _____

To: Philips Business Equipment, Arundel Great Court, 8 Arundel Street, London WC2R 3DT. Tel: 01-836 4360.

THE ARTS



Lyric Hammersmith Studio Landmarks by MICHAEL COVENEY

Nick Darke's everyday story of country folk is set in the Cheshire of 1835. Two brothers, lads of the soil, are debating the advantages of new farm technology while one of them is building a set of stocks. The stocks are to be a sideshow in the King's Silver Jubilee celebrations. But they assume a dramatic function when a Nature-loving hook-nosed clergyman, with talk of getting closer to God by watching larks and stoats, is suspected of being a "boggart" or ghost, and unceremoniously dumped in the constrictive contraption. Is he a boggart or not? The play, and especially the production, makes nothing of this ambiguity (compare and contrast with Captain Swing at the Warehouse).

Wigmore Hall Luigi Alva by MAX LOPPERS

The recital on Friday, a display of vocal elegance, artistry, and control of a superior order, proved nonetheless a good deal less scintillating than the one Mr. Alva gave at the Elizabeth Hall five years ago. The cause of the moderated impact was obviously not the change of venue, and demonstrably not the ravages of time—the voice is remarkably well preserved, a *tenore di grazia* still flexible, forward, and appealing, if never quite honeyed of tone (a few low clouds of unsteadiness cleared early on). But this time Mr. Alva appeared to have judged the balance of his programme less skillfully. Arias by Vivaldi, Alessandro Scarlatti, and Handel, followed by Mozart's "Miserere" (K431)—this morsel of essential information, along with many others, was unavailable on a crumbly, ill-misprinted sheet of words grotesquely overprinted at 25p) made for a rather solemn first half, at least as here traversed. Though the singer's line never trespassed beyond the confines of good taste, our knowledge of what constitutes "classical" singing now insists on a more lively approach; the absence of any period graces or ornaments, in conjunction with the ponderous pace at which most of the numbers moved, forced the performances into attitudes both old-fashioned and respectful in the wrong way. It was the notable achievement of the pianist, Craig Sheppard, to indicate orchestral colouring with unpropitious material; both singer and accompanist brought a welcome amount of tonal variety to play on the Mozart concert aria.

Mitchell Prize awarded

The Anglo-American Mitchell Prize for the History of Art, a sum of \$10,000, has been awarded to Meyer Shapiro for his book, *Modern Art, 19th and 20th Centuries*. The judges, headed by Sir John Pope-Hennessy, and the trustees, represented by Lord Annan, vice-chancellor of London University, presented the prize to Mr. Shapiro at a ceremony at the Metropolitan Museum of Art, New York.



Angela Chadfield and Colin Haigh

Citizens, Glasgow The Maid's Tragedy by B. A. YOUNG

At the peak of the Philip Prowse's splendid set sits Honour, a character introduced by Mr. Prowse (who is director as well as designer) to make up for all those gods and things he has wisely left out. Honour, a fresh-faced youth (Ruper; Farley), bands weapons to those who need them for reputation's sake, and joins in unison with any line that treats of probity or esteem. Where honour's at the stake, bloodshed must always follow, and the final curtain falls on a scene as bloody as the end of Hamlet.

New IBA head of programming

Mr. Beverley Smith, 38, has been appointed as the IBA's Head of Radio Programming. Currently programme controller of Radio Trent, the Nottingham-based independent local radio station, he will take up his post shortly.

Coliseum Julietta by MAX LOPPERS

Thursday's performance of Martini's opera, in the New Opera Company production (in association with ENO) first seen last year was an evening of enchantment. I know of no opera quite like Julietta. With it, indeed, Martini may have invented a new category of opera—the opera of dreams; for though earlier 20th century ventures into the twilight zone of operatic surrealism allow interpretation in terms of dream symbolism (the New Opera Company has argued a highly persuasive case for reading Shostakovich's Nose in such a light), in Julietta we seem to feel the whole theatre itself gradually transformed into a dream world. I know of few opera productions more perspicacious, more accurate in style, more firmly rooted in the music—more remarkable, in sum, than Anthony Besch's, in sets by John Stoddart that deserve a permanent exhibition place at the Tate, and as conducted with his peculiar fancy and dramatic muscle by Charles Mackerras. It all amounts to a revival that any true opera lover would be mad to miss.

Savoy Not Now Darling

"Isn't that where all the young ladies can be found exactly as lovely as you would want them to be. Sylvia Syms plays Maude, and is as attractive as we know her to be. Box and Cox are Derek Bond as the breezy old naval officer and Monica Grey as his country-bred wife. Tony Ansell plays Harry McMichael, Janie's husband, a businessman short in temper and in morals; the little but enviable part of Sue's husband, who might be a barrow-boy or something, goes to Nicholas Field. June Whitfield has fun with the staid secretary knocked off-balance by the alarming goings-on in the shop. The playing is what you would expect from Ray Cooney's direction. I think it's the wrong kind of playing for farce; they all try to be funny all the time instead of playing the lines to be believed, so you can't or anyway I can't, share in the tensions and embarrassments of the folk on stage. However, this is a well-liked formula, and if the fashion persists audiences who like to know what they're going to get should enjoy themselves all right. The unelaborate shop premises with its two convenient snt-rooms and its wide balconied window is the work of Alan A. Young.



Sally Burgess

Nottingham Playhouse Forever Young by MICHAEL COVENEY

Shane Connaughton's new comedy begins with a promising, though far-fetched idea for farce, before dwindling into yet another interminable lament for the 1960s. The scene is Blackbushe aerodrome, Surrey, where Bob Dylan is to perform for 100,000 weekend beatniks with paunches and memories of Grosvenor Square. This of course happened only last year. The point is that Jackie (Lois Daine), a sexy pin-up in the class of '68, has issued invitations to people she has not seen in a decade. And on they come: the balding dentist from Guildford with a heavily pregnant wife in pursuit; a Yeats-quoting retarded bippie with bad words for everyone, including Dylan; a sloppy couple who still hold out hopes of an orgy while passing the joints. After an initial flurry in which the dentist is bundled nude on to the stage after a quick burst of sexual nostalgia with Jackie in the obligatory orange tent, the characters relax into a squat round the picnic to chew over the old days. This exercise in group masochism soon wears thin as you never believe for any moment in the claims the characters make for their past or its value to them. In fact, Mr. Connaughton throws in the towel by coming round to the conclusion that they were all a bunch of dead beats to start with. So we are left with a sentimental morass flecked with the odd funny line and the occasional attempt to crank the action into gear with imposed physical developments. The dentist's wife, for instance, is put to sleep only to wake every now and then with some unconscious give-away of her husband's kinky bedroom habits. This, after an extremely unfunny outburst of pre-emptive farting, Jackie's husband, meanwhile, is trying to convince everyone that they should ditch language and levitate. Keith Washington's production, on a relentlessly ugly but functional design by Ian Smith, indulges the text but still manages to extract good performances from Nick Stringer as the unreformed, lecherous dentist and from Robert Lloyd and Arbel Jones as two very different survivors.

TENNIS BY JOHN BARRETT

McEnroe wins again at Wembley

JOHN MCENROE, the 20-year-old left hander from Douglaston, New York won his second successive Benson and Hedges championship at Wembley yesterday. He beat Harold Solomon, a fellow American, 6-3, 6-4, 7-5 in 2 hours 31 minutes of long and arduous rallying. This was McEnroe's eleventh tournament win of the season from 15 final round appearances. He won \$35,000, taking his season's prize money to \$385,000—easily higher than any of his rivals. It was one of those days when the champion's touch had deserted him. He was not serving well, and the clever mixture of looped drives to the baseline and early fierce drives from Solomon denied him the rhythm on which he normally thrives. We were treated to more errors than usual as each man strove to break the other's will. Solomon wanted to prolong the rallies. McEnroe sought to shorten them, but unless his approaches were near the lines and hit with considerable pace, he was likely to be passed. The first set, which lasted 55 minutes although it contained only 9 games, went beyond duce on four occasions. McEnroe broke serve twice, in the fourth and sixth games, to turn the set his way. He had first been broken in the third

draw from the tournament before it started. This had led Mr. Len Owen, Benson and Hedges' director of special events, to question the wisdom of another expensive arrangement—namely his contract with the Association of Tennis Professionals. This year, with packed houses on the last three days, its members will earn more by sharing in the gate receipts than they have done for the past three years from a straight fee. But the one commodity which every sponsor needs to sell an event—the star players—simply cannot be delivered by ATP. "I think the message has got through," said Mr. Owen yesterday. "Next year is the last of our five-year agreement, and of course I am considering every option open to me for future years." The Greater London Council has published a proposed code of conduct for disc operators. Called "Disco Rules—OK" the code is an attempt to curb violence at discos which has caused the death of eight people in London so far this year. If passed by the council's public services and safety committee next Thursday, the code will be distributed to more than 1,000 holders of GLC music and dancing licences. The code covers such aspects as: control of admission; management of premises; searches for offensive weapons; strict rules on dealing with trouble-makers; and conduct of staff and stewards.

SOCCER BY TREVOR BAILEY

Rix could fill Brady's Arsenal role

IT HAS been a happy week at Highbury. Everton, Arsenal and Liverpool have all been through the quarter-finals of the Football League Cup at the expense of Brighton, generally reckoned to be the most anaemic eleven seen here this season, and making their way win at Nottingham Forest even more remarkable. On Saturday, Arsenal thoroughly deserved their 2-0 victory over Everton, which takes them into a challenging fifth place in the first division, only three points behind the new leaders, Liverpool. Much clearly depends upon the outcome of their next two fixtures against Liverpool at home and Forest away. Four or even three points from these matches could see them in front at Christmas. Even if this happens it is difficult to believe that the present Arsenal will be the eventual League champions. Two or three of their present side are no more than average and they are over-dependent upon the genius of Brady. After a pleasant and exciting contest, which was a credit to both contestants, the Everton manager, Gordon Lee, summed it up as a two-half affair. His side had enjoyed the better of the first session and failed to score, while Arsenal had dominated the second, but had put

the ball into the back of the net, although this represented a fair basic assessment, it did not fully account for the individual performances of two members of the home team, which really represented the difference between the two. First, Jennings brought off three brilliant saves, two in the first half, which prevented the visitors establishing the lead they deserved. In sharp contrast, Hodge the Everton goalkeeper, was painfully suspect throughout, especially against high crosses, even though he had no chance with either of the Arsenal goals. Then there was Brady, who dominated the proceedings to such an extent that he made all the other players on the pitch, including Talbot and Hartford, who both cost fortunes, appear second-class. His dribbling, distribution and positional play was so brilliant that the Everton defence was in danger every time he was in possession and he really did justify the crowd's chant "Liam Brady is Magic." He laid on Stapleton's second goal with a beautiful run and perfectly executed pass. When he limped off near the end with a damaged ankle the game was decided. On this display Brady looked the most imaginative, inventive and complete half-back in the UK, and probably Europe. On the present inflated market, and judging by some recent purchases, he must be worth in excess of £2m. Even with the improved tax position for the wealthy of this country Arsenal are most unlikely to retain his services for much longer. Every time he received the ball the crowd buzzed with anticipation and they were seldom disappointed. Whether he will enjoy his football as much as he does as the king of Highbury, is less likely, but money talks. Although Brady's departure would be a sad loss, the club is fortunate in having Rix, who might then blossom forth into an outstanding player. The similarity in style, build and preference for the left foot of Brady and Rix is at times almost a handicap. Everton, who for so long have had to live under the shadow of their very successful Merseyside rivals, Liverpool, have almost entirely rebuilt the side

An appeal to the Dutch

MOST MAJOR NATO Governments now seem ready to go ahead with an important double initiative at their annual winter meeting in Brussels next month. A decision to mend a gap in Western defences by deploying a new generation of American nuclear missiles in Europe is likely to be accompanied by an offer to pursue fresh arms control proposals with the Soviet Union. The offer of negotiations has been planned for some time. One of its main purposes is to reassure Western Governments and public opinion that NATO is not seeking to escalate the arms race by deploying the sophisticated new American Cruise and Pershing missiles. Following President Brezhnev's East Berlin "peace initiative" of October 6, it is now also seen as the West's political answer to his proposals.

Resistance

By far the strongest resistance to the Western plan, at least in its current form, has come from the Netherlands. At last week's meeting of the Alliance's Nuclear Planning Group in The Hague, Mr. Willem Scholten, the Dutch Defence Minister, was obliged to record serious reservations about the programme, under which 48 of the 572 new missiles would be based in his country—despite the fact that he personally favours the scheme. The strength of Dutch Parliamentary opposition is such that he was forced to argue for a postponement of any decision to deploy, though not to produce, the new weapons, until Soviet intentions have been tested in further arms control negotiations. Alternatively, or additionally, the Dutch Government would like to see a new missile to be based in the Netherlands and the number of nuclear warheads already in the country reduced.

The other countries showed little sympathy for the Dutch position last week. The U.S. and the UK told Mr. Scholten that his standpoint was totally unrealistic and emphasised that the package must be accepted as a whole. Their hope is that the Dutch will realise in the coming weeks that the package cannot be reopened and will therefore stand up and be counted in Brussels in December. Given that there is to be another

No alternative to cash limits

THE GOVERNMENT seems to have planned its tactics for the public sector pay battles ahead with more finesse than did its predecessor. Friday's announcements of cash limits for the local authorities and nationalised industries struck a balance between confrontation and appeasement that may enable Britain to muddle through the coming year round without a repetition of last year's hardships. Although, in the long run, the continuing use of cash limits as an instrument of incomes policy will cause serious dislocation in public sector investment programmes and may exacerbate the inefficiency of many public sector activities, the Government has judged that the immediate need to contain wage inflation must take priority. It is hard to disagree with this assessment.

Unrealistic

In principle the way that governments have used cash limits to undermine the traditional system of public expenditure planning is unsatisfactory. Ministers and officials spend months going through every part of the public sector with a fine tooth comb, balancing priorities, cutting what is dispensable, augmenting what is not and finally presenting their plans to Parliament in a White Paper. Then, a few weeks later, many of these decisions are in effect overturned, when the Government announces an unrealistic estimate of inflation which will allow blanket cuts to be imposed by the use of cash limits.

Neither the Government nor the local authorities can regard as realistic the allowance built into the public sector cash limits for the next year. To keep wage bills for 1980-81 within 13 per cent of this year's level, local authorities reckon that pay settlements will have to be kept down to around 10 per cent, a pay drift and overtime is taken into account. Almost certainly, therefore, there will be spending cuts beyond the 21 per cent officially demanded by the Government, while rates will increase faster than inflation. Nevertheless, the local authorities generally feel that they have done as well out of the Government as they could reasonably have expected. For in the irrational climate for pay

West Midlands industry shows the stiff upper lip

BY ARTHUR SMITH, Midlands Correspondent

ROUGH MEDICINE—but something our industrialists will have to live with," is how Mr. Reg Parkes, chairman of Brockhouse and of the West Midlands region of the Confederation of British Industry, describes the new record level of interest rates. He retains "a measure of optimism" in the face of one of the gloomiest surveys, published last week, ever conducted by the local office of the CBI. Questionnaires to Midlands companies indicated a sluggish home market, difficulties with exports, lower employment, and a worsened financial position, and a deterioration in business confidence. On the brighter side there had been "a slight improvement" in capacity utilisation and "a marginal revival" of planned investment spending.

The regional council, meeting on the day that the Bank of England hiked minimum lending rate to a record 17 per cent, demonstrated "a remarkably resilient attitude" to the immediate problems, according to Mr. Parkes.

"We must stop talking ourselves into a depression which could become self-fulfilling. I am no more pessimistic than I was a year ago. The regional economy has been buffeted enough in the past 12 months and has the strength to withstand 1980."

An example of the relative optimism demonstrated by a number of companies within the region is provided by Mr. Leslie Fletcher, chairman of Glyndwed, a Birmingham-based company with a broad range of interests in manufacturing industry. He said at the weekend that the picture would have to be reviewed in the light of rising interest rates but none of his managers had taken as gloomy a view of the future as that indicated by CBI forecasts.

"Like the man who jumped from the top of the tower block we might still be at the 13th floor and saying everything is OK, but our experience just does not tie up with the CBI forecast."

For Glyndwed, with interests in steel stockholding, industrial fasteners, bathroom and kitchen equipment and consumer durables the position is no better nor worse than for the past 12 months. "Our capital expenditure next year will be similar to between £3m and £10m and we shall be looking for improved productivity and higher output," Mr. Fletcher maintains.

The apparent divergence of view between industrialists is a reflection of the current uncertainty of exactly where in the economic cycle the region stands and what damage the industrial disputes of this year have already inflicted. 1979, which started with the strikes in road haulage and petrol delivery, has seen profits squeezed by mounting inflation, high interest rates and an appreciation of sterling. But the biggest blow to the West Midlands with its heavy concentration of manufacturing

industry—around 48 per cent of the workforce is in that sector—came from the engineering dispute. The two-day strikes and overtime ban cut the output of many companies by more than half. Even now, because of the disruption to production schedules, it is difficult to assess capacity utilisation; managers are not sure whether orders represent re-stocking or real demand.

The engineering industry in general seems to be operating at around 85 per cent capacity—a considerable improvement on the depressed conditions of only a couple of years ago but still a long way short of the activity at the beginning of the 1970s.

A similar picture emerges in the machine tool sector where the home market is depressed, but low-priced orders from China, the Soviet Union and Eastern Europe have averted new redundancies. Price competition is even more acute, particularly from the Japanese, in the market for electrical machinery. Demand for consumer durables showed considerable buoyancy ahead of the July increase in value added tax but dropped back quickly. Some manufacturers report an improvement in recent weeks but expect the market to slump after Christmas.



Views from the Midlands: Mr. Anthony Rudge of Barclays Bank (left): Investment continues; Mr. Leslie Fletcher of Glyndwed: looking for improved productivity; Mr. Reg Parkes of Brockhouse (right): markets are more competitive.

Nowhere is the consequence of the poor performance of the vehicle sector—cars, trucks and tractors—more clearly illustrated than in the foundry industry. Spare capacity in ferrous foundries is running at around 40 per cent and in the aluminium and light alloy sectors even higher.

The drop-forging industry, which again supplies the vast bulk of its output to the vehicle sector, is working at only around 65 per cent capacity. Mr. David Powis, director of the National Association of Drop Forgers and Stampers, points out that around 2,500 jobs have been lost in the past 18 months. A similar shake-out is anticipated over the next 12 months. Birmid Qualeast, one of the largest foundry operations in Europe is trimming labour and capacity because of the reduced demand: up to 1,250 jobs, most of them in the Midlands, are on their way out in the 12 months to next spring.

Over the past decade Birmid has cut output 30 per cent from around 300,000 tonnes and labour by 25 per cent from 12,000 to 9,000. Mr. Terry Davies, managing director of the Birmid foundries, says the industry has "come down a very slippery slope but has continued investing."

The engineering dispute took its toll on profitability, however, and a "sizeable" amount of investment has been postponed. Mr. Davies believes the worst is now over and that BL, under the revised strategy of Sir Michael Edwards, the chairman, should be able to retain markets and become viable.

Mr. John Warburton, director of the Birmingham Chamber of Commerce, points out that even with the promise of the past 12 months, the unemployment in the region has not climbed dramatically, and at 5.6 per cent is only marginally above the 5.5 per cent average for Great Britain as a whole.

Within the total there are potential problem areas. Nowhere is the consequence of the poor performance of the vehicle sector—cars, trucks and tractors—more clearly illustrated than in the foundry industry. Spare capacity in ferrous foundries is running at around 40 per cent and in the aluminium and light alloy sectors even higher.

The drop-forging industry, which again supplies the vast bulk of its output to the vehicle sector, is working at only around 65 per cent capacity. Mr. David Powis, director of the National Association of Drop Forgers and Stampers, points out that around 2,500 jobs have been lost in the past 18 months. A similar shake-out is anticipated over the next 12 months. Birmid Qualeast, one of the largest foundry operations in Europe is trimming labour and capacity because of the reduced demand: up to 1,250 jobs, most of them in the Midlands, are on their way out in the 12 months to next spring.

Over the past decade Birmid has cut output 30 per cent from around 300,000 tonnes and labour by 25 per cent from 12,000 to 9,000. Mr. Terry Davies, managing director of the Birmid foundries, says the industry has "come down a very slippery slope but has continued investing."

The engineering dispute took its toll on profitability, however, and a "sizeable" amount of investment has been postponed. Mr. Davies believes the worst is now over and that BL, under the revised strategy of Sir Michael Edwards, the chairman, should be able to retain markets and become viable.

Mr. John Warburton, director of the Birmingham Chamber of Commerce, points out that even with the promise of the past 12 months, the unemployment in the region has not climbed dramatically, and at 5.6 per cent is only marginally above the 5.5 per cent average for Great Britain as a whole. Within the total there are potential problem areas.

ment of sterling and costs over the next few months. Given the industrial relations problems managements have faced so far this year there can be no mistaking the concern about the outlook for the current year which will stretch through the winter months. At this stage, however, the most serious risk of disruption is likely to come from public sector employees protesting about cut-backs rather than from manufacturing workers.

While managers might differ in their interpretation of the changes taking place within the region, the message of shut-downs and redundancies has not been lost upon the union leadership. Mr. Phil Povey, an experienced regional official of the Amalgamated Union of Engineering Workers, says: "We are seeing the manufacturing base of the region being eroded at such an alarming pace that one can only be fearful of the consequences."

However, he does not think the seriousness of the situation has penetrated to the shop floor. "Workers are still being dazzled by the glare of redundancy and severance payments. They do not realise that it provides only temporary relief. This time the alternative jobs will not be available."

Union officials note also a new determination among employers. According to one senior officer: "Management is no longer prepared to enter into a Dutch auction. There is a tendency to come into negotiations with a first offer that is also the last. They say what they mean and mean what they say."

The failure of production workers at Chrysler UK to extract any concession from management after 15 weeks of strike action seems to have exerted a salutary effect on the region. Militancy has also evaporated among engineering workers who demonstrated loyalty to the union leadership in the recent dispute but feel they have little to show for their sacrifice.

Perhaps the key to the position is the BL workforce whose annual wage increase was due at the beginning of this month. Sir Michael Edwards, by-passed the militant shop stewards in a ballot to get overwhelming support from the workforce for the closure of plants and the axing of 25,000 jobs.

In response to a shop stewards' claim for a 30 per cent index-linked pay rise he is now offering 5 per cent in return for fundamental changes in working practices—a demand which is now backed by Sir Keith Joseph, the Industry Secretary, as a condition for advancing more money to the State-owned concern.

The trade unions in the West Midlands are noted for their militancy but seem to be realising that in the face of a difficult business climate, low profits, hostile public opinion and a determined Government, any wage increases will have to be earned in the main through higher productivity.

Marginal orders

The division, confronted with lack of growth in the home market, took the cautious decision to promote an export which this year, are likely to reach £60m.

While TI must retain a long-term commitment to key markets a proportion of the turnover is "opportunity business." Such marginal orders—say for the tube to Eastern Europe—can be accommodated on a low profit basis for only a short time. Whether such business is jettisoned must depend largely upon the move-

ment of sterling and costs over the next few months. Given the industrial relations problems managements have faced so far this year there can be no mistaking the concern about the outlook for the current year which will stretch through the winter months. At this stage, however, the most serious risk of disruption is likely to come from public sector employees protesting about cut-backs rather than from manufacturing workers.

While managers might differ in their interpretation of the changes taking place within the region, the message of shut-downs and redundancies has not been lost upon the union leadership. Mr. Phil Povey, an experienced regional official of the Amalgamated Union of Engineering Workers, says: "We are seeing the manufacturing base of the region being eroded at such an alarming pace that one can only be fearful of the consequences."

MEN AND MATTERS

Making an entrance

One of a new breed of what might be termed guerrilla diplomats, 24-year-old Tomas Aguelo, did not have the smoothest of passages when appointed Nicaraguan consul in London. It turned out that the existing ambassador, Benjamin Martin—an old supporter of the deposed General Somoza—still considered himself the legitimate London representative of Nicaragua, and only handed over the keys to the embassy last week. It appears that he was helped to see reason by the metropolitan police. Conscious that even in Gloucester Road they were dealing with a foreign territory, they rang Martin up, rather than making a personal visit, to explain certain practical implications of the revolution back home. The ex-ambassador has now left for America, leaving behind a trail of bureaucratic debris and, I am told, "some trouble about the embassy car."

A student of economics at Essex University until his elevation, Aguelo exchanged a small flat in Colchester for a makeshift bed among the filing cabinets at the embassy. (The embassy has no living quarters as such—Martin lived elsewhere.) The new consul is engaged principally in negotiating on European sales of cotton, coffee, and sugar.

Nicaragua is maintaining diplomatic standing in London chiefly because of the City's importance in the commodities world. The ravages of last summer's civil war—especially the random bombings by Somoza's airforce—so shredded the country's economy that full embassies in Europe are being kept open only in Brussels, Paris, and Madrid. The Brussels ambassador has to cover the EEC, Belgium, the Netherlands and Britain; he hopes to present his credentials to the Court of St. James's within the next few weeks.

Until then, the Nicaraguan Consul and his one assistant—a young woman who doubles as secretary and researcher—will be holding the fort unaided, and the offices in Gloucester Road will resound no doubt to the sort of political language unknown there for many years.

Sign of the times

America's most controversial former Secretary of State, Henry Kissinger, is being given a rough ride these days by the gentlemen of the Press. On the subject of Cambodia especially, they goad him to the point where he is wont to turn white with anger and frustration, stumbling over his words and stabbing the air like Basil Fawcett reprimanding Mannel. Last Friday—at a London news conference held to publicise his memoirs, *The White House Years*—he was faced with a particularly hostile crowd of interrogators from Britain and abroad, and it was revealing, therefore, to see so many of them creep up afterwards to the good doctor begging him to autograph their free copies of his book.

Organisational psychology lecturer Richard Ottaway, who also runs an optional one-day course called *Who am I?*, tells me his new wine-tasting option, besides being the most popular of all, has won top marks from the students for "presentation," "content," and "application back home." An essential management skill? "Certainly," says Ottaway guardedly, "eating and knowing your way round food and drink are major ways

in which we communicate socially." This expertise should come in useful, perhaps more useful than, say, Transactional Analysis, during the long slow days of the coming recession. Ottaway has kindly sent me a full list of all the wines tasted on each course. The highlight of the first was, he says, the Sauternes; their consumption proved a genuinely educative experience. "The reaction ranged from 'No thanks, can't stand the stuff' to 'Mother always served it for Christmas lunch. But after a bit of coaxing they all agreed it was a great experience when drunk with the Barlett pears in syrup,'" he tells me.

Trade Secretary John Nott's recent attack on the growth of "rampant consumerism" in the 1970s prompted a swift response from the Consumers' Association, publishers of *Which?* magazine. At the association's annual meeting at the weekend, badges were distributed proclaiming "I'm rampant." The target of the demonstration was presumably Sally Oppenheim, Consumer Affairs Minister, who addressed the meeting. Badges are now reported to be in great demand within more playful sections of the Department of Trade.

Why did these companies choose Livingston?

Burroughs Machines
Marconi Communications
MFE
Sperry Univac
Digital Equipment
Diagnostic Sonar
Tektronix UK
Met Etlch

Because Livingston, in Central Scotland, has:

- * A good supply of graduate and skilled labour.
- * Direct motorway communication and rapid access to major ports and railheads.
- * A 15-min. journey to Edinburgh Airport.
- * Liaison with nearby universities and technical institutes.
- * An expanding technological base with major British workforces.
- * Fully serviced industrial sites, factories and offices and maximum financial assistance.
- * A range of housing for workers and their personnel.

VISIT US AT STAND 672
ELECTRONICS '79, OLYMPIA,
NOVEMBER 20-23,
OR CONTACT
James Pollock, Industrial Development and Estates Manager,
Livingston Development Corporation, Livingston, West Lothian,
Scotland, Tel. Livingston (0588) 31177, 31177/27170.

MAKE IT IN LIVINGSTON

هكذا من الشهر

هكدامن التجهيل

ELECTRONIC COMPONENTS

Electronic component manufacturers have a diverse and fast-changing role in the electronics industry as a whole. Many new developments will be highlighted in London this week at the Electronic Components Industry Fair, 'Electronics 79' at Olympia, (November 20-23).

CONTENTS			
Introduction	II	Printed-circuit boards	V
Microprocessors	III	Active components	VI
Distributor networks	III	Passive components	VI
Optoelectronics	IV	Interface devices	VII
Power supplies	IV	Power components	VIII

The Single Board Computer. It's likely to be the single most potent force in transforming your business in the 80's. All the pundits tell how the new generation of micro systems can cut your development costs... get your product to market faster... leave the competition standing. What they miss out is what you, as a businessman, can actually do about it today.

How to switch on to systems power
Start talking to Rapid Recall. You could call them Britain's No. 1 Micro shopkeepers. They are distributors, not manufacturers, not software specialists, not consultants. With the franchise for Intel and Digital Equipment Corporation they can supply you with the most sophisticated, most up-to-date product in the world - ex stock.

Why pick a specialist distributor?
Because they've grown up with micros, Rapid Recall have a pool of expertise that is rare in so young an industry. They have the applications people to give you the systems back-up you need to get you operational faster. Because they concentrate on a narrow line range of products they can keep stock levels to ensure your programme is not log-jammed for want of a specific chip.

After Sales Service
It is a crucial factor in the purchase of a car, and it's equally vital to ensure that your investment in micro technology is properly maintained. Rapid Recall are the only distributor to offer you a comprehensive after sales service package for all your micro products.

Speed is our business
As our name implies, customer service in micro has to be fast, responsive and alert to your individual needs. You'll find when you talk to Rapid they talk your language - the language of the market place.

The next step
Contact our marketing specialists to discuss your company's requirements.

Rapid Recall Limited
6 Soho Mills, Wooburn Industrial Park,
Wooburn Green, Bucks.
Telephone: Bourne End (06285) 24961.
Telex: 849439

Rapid Recall (Northern) 48 Beam Street, Nantwich.
Telephone: (0270) 826061. Telex: 36329

ISN'T IT TIME YOU HAD A BOARD MEETING?



Rapid Recall is a Unitech Company

An Intel Packaged System 80
We can deliver it today

ELECTRONIC COMPONENTS II

Northumberland County Council...

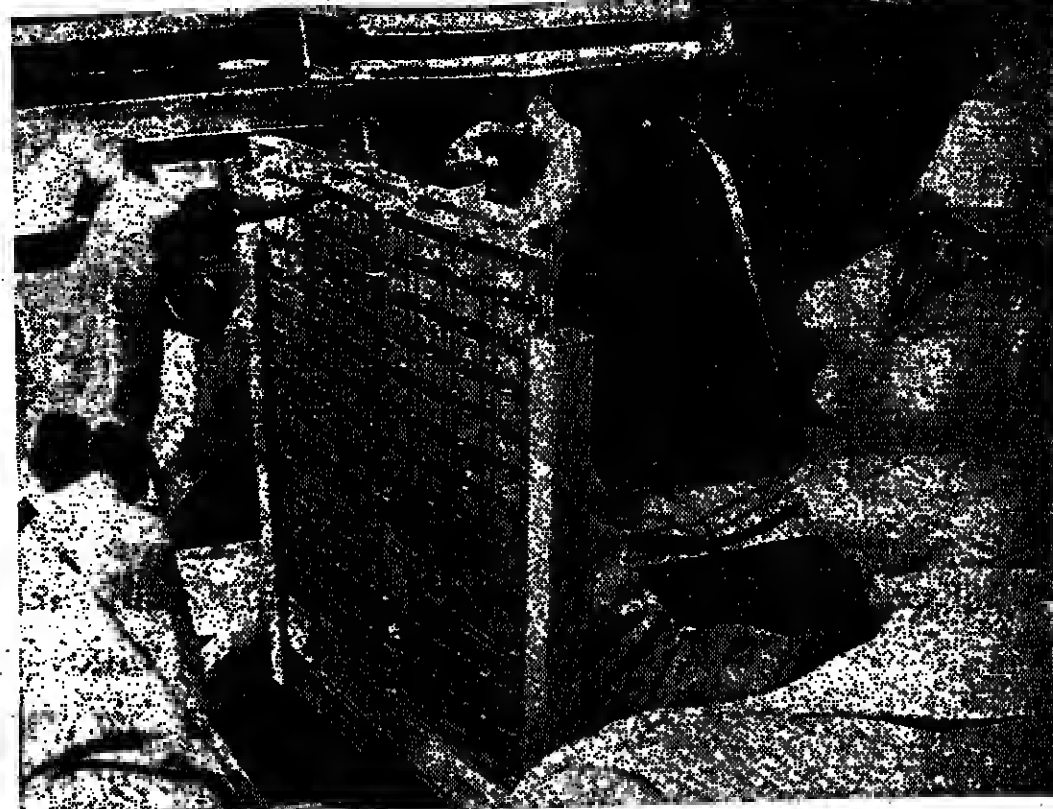
...offers a free and confidential advisory service to industrialists seeking factories or building sites.

See us on Stand 712 at...
The Electronic Components Industry Fair
 Olympia
 20-23 November 1979

or contact:
 Industrial Development Officer
 Northumberland County Council
 County Planning Department
 County Hall
 Newcastle upon Tyne
 NE11SA
 Tel.(0632) 26613 Telex 537048



Size comparisons—ten tiny semiconductors (silicon chips) from Philips fit easily onto a contact lens (diameter 9mm), which rests on a watch face



Eugene Zienkiewicz working on a 32K RAM (memory) board for a message-switching system at the IFT Business System's Group Data Systems Division factory at Enfield, north London

Rapidly changing sector

By Elaine Williams

ELECTRONICS COMPONENTS is one of the most diverse sectors of industry, ranging from the manufacture of valves and devices such as semiconductors (silicon chips)—which include transistors, microprocessors and memory circuits to radio components, such as capacitors, resistors, electro-mechanical devices and printed circuits boards—to the electronic tubes which are used in the manufacture of televisions.

In Britain, the electronics components market has been growing rapidly, in fact, far more rapidly than the economy as a whole. The manufacture of components is a rapidly changing and highly competitive one as illustrated by the semiconductor market which is dominated by U.S. companies. Microelectronics is one of the key technologies of the future and this is the reason why most European countries have in-

vested heavily in semiconductor manufacture to ensure that even in the face of U.S. dominance of this sector of the components industry, there will be some indigenous manufacture. The UK strategy for its components industry is typical of the feelings of other European partners. Electronics components are important to equipment manufacturers since if UK products are insufficiently competitive or if output does not

grow fast enough imports will grow considerably faster than exports. Microelectronics components will be used in products ranging from consumer durables to industrial capital equipment. In fact, since the words silicon chips came into common usage, the electronics components industry has become extremely important. Reports by the National Economic Development Council Sector Working Party for the industry pointed out the importance of a strong components supply industry. The Electronics Components Industry Federation which represents manufacturers described 1978 as a very eventful year for this sector since it was a year in which the Labour Government pledged a great deal of money to the development of the semiconductor side of the industry.

which oversee the interests of the European manufacturers: the Electronic Component Manufacturers Association and the Committee of European Associations of Manufacturers of Electronic Components. Broadly speaking, ECEC deals with policy matters and is in contact with the EEC Commission whilst CEMEC looks after technical matters affecting members and reports to ECEC. CEMEC is not only involved with the setting of a single set of European standards but is also actively involved on the world wide International Electronics Commission Quality Assurance for electronic components.

Another important sector of the electronics components industry is television tube manufacture. In France accounts for 18 per cent of turnover. The television set is the single most important item in consumer electronics. Last year, world production was about 30m units. Japan produces almost half the world's output in television picture tubes which has been of great concern to European manufacturers. In Britain, there now remains only one television tube manufacturer, Mullard, which is part of the Dutch Philips group. Its sales account for 20 per cent of the UK market. However, Mullard is also a large manufacturer of active components—the team for transistors and integrated circuits, since this is the largest growth area.

Both the setting of European and World standards pose thorny problems for manufacturers since each country, for its own protection of home markets seeks to impose one or several standards and each country has strong ideas about what type of standards should be set. Last year, CEMEC met and discovered, that evidence had been given which showed that the rules of the International Electrotechnical Commission Quality Assurance, which excluded component manufacturers not participating in the old system, was against U.S. Anti-Trust laws.

This could lead to problems for European companies wishing to export components under the system to the U.S. European countries are trying to modernise manufacturing to improve their competitiveness on a world-wide scale—especially to bring down prices compared with the Japanese. This is particularly true of the French and British component makers.

Throughout Europe, countries have been trying to ensure that they will have the ability to manufacture in large quantities the silicon chips they need. This is why Britain has encouraged joint ventures with U.S. companies such as that between GEC and the U.S. Fairchild organisation. Also the National Enterprise Board set up Immos, with the intention of setting up manufacture of integrated circuits from scratch with a total investment of £50m. In France, similar joint ventures have been undertaken for example with Motorola in the U.S. to work with a partly government-owned company, called EFCIS. West German encouragement of active component manufacture has been aimed mainly through Siemens which has invested a great deal of money in developing expertise in the technology.

The West European industries have a very arduous task since they have to cope with serious problems generated by the competitive industries in the developing and low-salary countries all seeking to gain an entry into Europe for passive components. Europe sees the development of common standards and the aim to make industries within individual member countries complementary rather than competitive as a way of allowing more opportunities internationally. However, the French industry feels that these positive moves will be insufficient if partners over the world do not respect the rules of fair competition.

Europe sees the development of common standards and the aim to make industries within individual member countries complementary rather than competitive as a way of allowing more opportunities internationally. However, the French industry feels that these positive moves will be insufficient if partners over the world do not respect the rules of fair competition.

There are two committees

Example

This is exemplified by the fact that in the early 1970s a typical colour television set contained 1,100 to 1,200 separate components. Today a British set contains less than 600 components and Japanese designs have only 420. In such products the increasing use of integrated circuits leads to a reduction in overall component demand. However, in other areas such as in consumer durables like sewing machines, washing machines and vending equipment the use of integrated circuits will grow. And the use of integrated circuits in such products also means the use of other components such as printed circuit boards, connector switches, displays and power supplies.

These type of components are the bread and butter of the electronics components industry and competition is often fierce when selling into the consumer sector of the market because profit margins are very low on high volume mass produced products such as connectors and switches. Often manufacturers seek to gain a substantial hold in the professional market where such margins are higher. Passive components such as these are very important for the British component industry since it accounts for two thirds of the total component output in the UK and import penetration is lower for this sector of the industry than the components industry as a whole. British passive component manufacturers supply about 65 per cent of the UK market.

According to the Sector Working Party, the buoyant demand for many domestically produced passive components has been helped by the increasing adoption of the BS 9000 standard which was set by the British Standards Institute notably by the Ministry of Defence and the Post Office. Also within Europe there is harmonising of standards so that components can be accepted throughout Europe without further testing or certification. This system called CEMEC strongly resembled the BS 9000 and both have the aim of building in quality by applying strict quality control procedures and disciplines to every aspect of the manufacture.



ITT believes that quality is something built in, not bolted on, that quality means meeting the specification exactly, however demanding that specification may be.

WE EAT, SLEEP AND DRINK APPROVALS

As a major supplier of high quality components to the electronics industry we already meet with wide approval. A wide range of capacitors, film circuits and valves are evidence of our total commitment to components of assessed quality. More will follow as the BS9000/CECC approvals programme matures.

In addition, we have an extensive range of Post Office approved components, among them the unique components for submarine telephone repeaters which anticipated zero-defects programmes by many years. Increasingly our products are specified

for the new telephone systems, TXE4 and System X. You will also find many ITT components with DEF-STAN approvals. Defence and military projects such as Clansman, Ptarmigan, Rapier and a host of other military projects. Our resources, too, have approval as well as our products.

But the real beneficiary of our massive investment in Quality is our customer; by our provision of utterly reliable components, his costs are reduced.

At ITT, quality is an obsession and approvals are our way of life; and we don't think our customers would want it to be otherwise.

ITT components
 ITT Components Group, Edinburgh Way, Harlow, Essex. CM20 2DE Tel: (0279) 26811.

هكزا من التحويل

OXLEY

SPECIALIST BRITISH DESIGNERS & MANUFACTURERS, FOR OVER 40 YEARS, OF HIGH RELIABILITY PROFESSIONAL ELECTRONIC COMPONENTS.

Capacitors, Connectors, Display Devices, Automation Control Boards, P.C. Hardware.

Oxley components have been used in many notable engineering projects:

- European Space Programme
- Submarine Cable Systems
- Comets and Toronado Avionics
- E.M.I. Brain and Body Scanner
- European Nuclear Energy Programme
- Clansman and Ptarmigan Military Communications
- Olympic Games Broadcasting (as Illustrated)

British Ministry of Defence Approval to DEF-STAN 91-21, Government Approved Test House, BS 5200 Approval, Ministry of Defence and British Post Office Component.

OXLEY Oxley Developments Co. Ltd.
 ULVERSTON CUMBRIA LA12 9QG ENGLAND
 CHARLES OXLEY UNWINSTON TEL: 0524 478100 FAX: 0524 478101

Growing influence on industry

MICROPROCESSORS

THE MICROPROCESSOR, sometimes called the computer on a chip, has grabbed the limelight over the past two years in an extraordinary fashion. It has forced itself into the heart of both Government and corporate debates, stimulated anxious debates on employment and is the bedrock of an industry whose growth rates continue to be very high.

Governments throughout Europe began to announce strategies on microelectronics last year: most contained certain forms of aid (for research and development, and/or for the stimulation of applications) and most, too, set their plans in the context of a general consideration of widespread technological change resulting from rapidly increasing automation of office and factory labour, together with the central role now being played by information. Of these strategies, the French Government's Nora report was the most elegant.

All governments approve of the establishment of semiconductor facilities: the French Government has aided Thomson-CSF in its efforts to link with the U.S. company, Motorola, while the Italian Government is preparing to subsidise the electronics industry to the tune of £600m during the next four years.

In West Germany, the Government is to launch a two-year £150m programme to develop very large scale integration products: in Japan, the Government promoted a number of microelectronic areas, especially VLSI which attracted a £130m subsidy.

In the U.S., there is little direct Government expenditure on industry: however, the amount spent on electronics through federal, and especially defence, expenditure is very high—expected to be around £10bn in 1979—and this gives microelectronic companies an ample home base from which to operate. At the same time, defence and other programmes bring with them research and development moneys which have been crucial in product development.

In the UK, the previous administration committed some

£55m to a microprocessor applications programme, £70m to a microelectronics industry support scheme, and £25m to the establishment of a new semiconductor company, Immos. The present administration have cut back the MISP programme to £45m, and have not yet ratified a second tranche of £25m which Immos will need if it is to begin operations in the UK.

Potential

At company level, awareness of the potential applications of microprocessors has varied extremely widely. In both the U.S. and Japan, the strength of the semiconductor industries has meant that they have been taken up much more readily than in Europe, as the accompanying tables on semiconductor use show graphically. In Europe, some companies—naturally, the electronic companies in the west—have been aware of developments and in some cases actively pursuing them for decades; while others still appear neither to know nor care of their uses. A recent survey by the U.K. Government showed, for example, that 50 per cent of UK companies continue to ignore developments.

The European market is heavily dominated by the U.S. semiconductor companies: the only two companies having any significant effort being Philips of Holland and Siemens of West Germany. The former has acquired the U.S. company, Signetics, around fifth largest of the U.S. companies, and also manufactures chips in various locations in Europe. Siemens has a stake in the U.S. company Advanced Micro Devices, and also manufactures on its own account.

The French companies Thomson-CSF, Matra and St. Gobain are all in the process of linking with U.S. semiconductor houses in joint ventures; while in the UK, General Electric (GEC) is setting up a joint venture with Fairchild. Immos, the State-backed company, has set up production facilities in the U.S., but has not yet committed itself to UK production.

Almost all the major U.S. companies—Texas Instruments, Motorola, National Semiconductor, TTI, General Instruments and (soon) Mostek have

plants in Europe, and most are considering enlarging them. The major exception is the innovative company, Intel, and it is thought to be actively prospecting for sites.

Growth in Europe, though from a lower base, is forecast to be rather higher than in the U.S.: at the same time, the U.S. companies have realised that in order to avoid tariffs, they must locate within the EEC. It remains broadly true, however, that most of the original design work stays in the U.S., and that much European production is satellite.

Within the semiconductor industries, two potentially far-reaching changes are now taking place. First, the Japanese industry is seriously rivaling that of the U.S.—to the alarm, it should be said, of the latter, which is alleging unfair practices and demanding U.S. Government action to keep the threat at bay. In large part, the emergence of the Japanese industry has been due to a decision taken by the Government and the major electronics corporations that it must switch much of its energy from consumer electronics to computer and semiconductor technology: to this end, massive research programmes have been initiated and the Japanese computer industry is now about to pose a large threat to IBM.

Thus, Japanese companies, such as Fujitsu, Hitachi, Mitsubishi and others, are to be found on the leading edge of semiconductor development, and are busy acquiring production facilities in the U.S. to take advantage of the boom in the market. These companies may be expected to be particularly active in the VLSI field, the dominant next stage of microprocessor development, and it is likely that industry standard chips will soon be made by Japanese, rather than U.S. companies.

The second is that semiconductor companies, once generally independent production houses, are now increasingly having to seek the shelter of large corporations because of their insatiable demands for capital. In the past few months, Mostek and Fairchild, both in different ways industry leaders, have been acquired by leading corporations. This has been the result of a two-way movement:

the companies have needed the cash to equip for VLSI production, while the companies—United Technologies (which acquired Mostek) and Schlumberger (which acquired Fairchild) both wanted their own semiconductor production under their own wing.

Chips are now the "fuel oil" of electronics, and large companies wish to secure their supplies. At the same time, the speed of developments continue unabated and the market is forecast to continue to grow, even through the forthcoming recessions. Microprocessors are increasingly pervasive, being taken up in every sort of equipment which was previously electro-mechanical. For Western European countries, the lesson is clear: the technology must be adopted, either through acquisition of companies or through "growing" them from scratch.

John Lloyd

THE SEMICONDUCTOR MARKET* WORLD PICTURE, 1980

	W. Europe	U.S.	Japan	Others	Total
Population	390m	236m	120m		
GNP, \$bn	2,800	2,600	1,100		
S/C market, \$m	2,960	4,660	2,980	900	11,500
% of world	26	40	26	8	100
% growth 1979-80	10	9	12	16	10.5
S/C per capita, \$	7.60	20.30	24.80		
\$ of S/C per \$1,000 of GNP	1.10	1.80	2.70		

* Excluding systems, excluding eastern bloc.

THE SEMICONDUCTOR MARKET* W. EUROPEAN PROFILE, 1980

	W. Germany	UK	France	North	South
Population	60m	56m	54m	47m	173m
GNP, \$bn	650	380	550	500	720
S/C market, \$m	1,100	615	471	333	442
% of Europe	37	21	16	11	15
% growth 1979-80	8	7.5	11.5	8.5	12
S/C per capita, \$	18.30	11.00	8.70	7.10	2.60
\$ of S/C per \$1,000 of GNP	1.70	1.60	0.90	0.60	0.60

Source: Marketing Research Department Motorola Europe, October, 1979. * Excluding systems.

Important aspect of marketing

DISTRIBUTOR NETWORKS

RISING COSTS involved in direct selling of electronics components mean that distributor networks are destined to play an increasingly important part in the marketing system. There are now about 200 companies in the UK involved in the distribution of electronics components. Aggregate turnover of distributors last year was £150m, of which £85m is attributed to only five companies and their subsidiaries. These are Electrocomponents, Diploma, Farnell Electronics, Unitech, and AB Electronics Product Group. Two other

major companies in this market are ITT Electronics Services and Jernyn Holdings. Each of these large distributors has manufacturing operations as well.

Since 1970 component distributors have increased their share of direct sales from 5.1 per cent to 22.4 per cent. This gain is attributable to several factors.

First, development costs have risen a great deal, especially for integrated circuits. The components themselves are produced in high volume and sold at low prices. To remain competitive manufacturers have to exploit as many markets as possible.

Another reason is that there has been a large growth in original equipment manufacture

by a number of small companies. Distributors are better placed to serve such a fragmented and diverse set of customers. In addition, electronics is being used more and more in non-electronics-based industries such as washing machines and machine tools. Again, these are so diverse that distributors can provide a better service to customers than the manufacturers.

Finally new electronics components are introduced to the market so quickly that the rate of obsolescence is high. The new components are usually more sophisticated than their predecessors but cost the same. Manufacturers are reluctant to hold stocks of components because they lose value too quickly.

Distributors have been able to fill this niche as stockholder, risky though it is. It is not uncommon for distributors to have a quarter of sales tied up in stock at any one time, so they have to spend a lot of time on careful management of stock levels.

The distributor network has become established in the UK just as it has in other Western European countries, the U.S. and, more recently, Japan. Distributors have a wide spread of customers, numbering tens or hundreds of thousands. They deal with several manufacturers and can even out supply and demand fluctuations and achieve much lower stock turnover ratios than is prudent for their customers or suppliers.

In Britain the origins of electronics components distribution industry can be traced back to the post-war revival of the electronics industry. There were then only about a dozen companies whose business was the supply of valves and replacement parts for the radio industry.

By 1960 the number of distributors had grown to 25, still mainly providing maintenance and repair. One company, Radiospares, now called RS Components, successfully specialised in stocking a wide range of common components and providing rapid delivery. However, its dominant position was eroded by the mid-1960s when the number of distributors doubled again to nearly 50.

The rapid growth in distribution was coupled with the increasing use of transistors and the need for reliable sources of supply. But with newer types of transistors rapidly superseding old models many distributors were caught out because they had kept too big a stock of components which quickly became obsolete.

Some distributors bought heavy stocks of one or two types of transistors only to find they were unwanted. Those companies which had good stock control and protective agreements with manufacturers were able to survive in particular market sectors.

The large companies which dominate the market each have their particular speciality. Large distributors with a wide customer spread have been able to specialise in a component range or type of service without compromising the benefits of large-scale operation.

There are various types of distributors in the electronics industry, some of which are well respected, although buyers still tend to regard the distribution industry with a certain amount of suspicion.

Some distributors will act as purchasing agents for a company and will buy all the components that a particular custo-

mer requires. They usually have very good contacts but service a few select customers, many of which are in original equipment manufacture.

It is becoming common practice, however, for distributors to take out an agreement called a franchise with one or several component manufacturers. This started in the 1960s when manufacturers found that an increasing proportion of sales were being taken up by distributors. But distributors were found to be fickle customers, changing their allegiance with suppliers whenever a new and better product arrived on the market. Coupled with this was the demand by equipment manufacturers for other services from the distributors, such as technical advice on component suitability.

Distributors then began to ask for franchises which would enable them to provide technical assistance to customers, through the help of the manufacturer, while they were also able to maintain higher stocks of a particular manufacturer's products.

Range

Initially manufacturers were unwilling to grant franchises to a distributor who had agreements with their competitors but it is now common for a distributor to hold several franchises. This meant that he is not so dependent on one supplier and can offer customers a wider range.

Franchised distributors feel that they represent an important slice of the electronics components supply industry. They even have an organisation called the Association of Franchised Distributors of Electronic Components. AFDEC has only about 24 members but they represent some 60 per cent of sales by distributors.

Already distributors have won a considerable market away from in-house sales operations by manufacturers. Manufacturers find that it saves them time, effort and the expense of trying to win sales from a diverse set of companies. It leaves them to concentrate on large orders while distributors tackle the medium and small orders.

Forecasts are that the distributors share of the UK market will continue to grow from its level of 22.4 per cent in 1978 to 29 per cent in 1981. This will represent sales of £225m out of a total of £380m. The whole of the market for electronics components has been forecast to have a fairly modest growth over that period, although the distribution industry will be in a strong position because of the growth in the electronics industry as a whole.

Elaine Williams

Mullard, badgers and cherry flans?

You might expect to find Mullard components in defence systems or television sets.

It may be more surprising to learn that Mullard image intensifiers designed to guide tanks at night are also enabling naturalists to observe nocturnal animals.



Or that technology originally developed by Mullard for defence is now controlling traffic and catching thieves.

And Mullard components in electronic information systems are helping to bring everything from stock market reports to cookery hints onto TV screens.

In night vision, in solid-state microwave, and in teletext and viewdata, Mullard are world leaders.

We are also the largest producers of electronic components in this country and, right across the board, industry comes to us for some of the most advanced components technology available anywhere, with assured quality and reliability.

We, in return, are only too happy to co-operate fully and closely.



And that's a combined effort which must be fruitful.

See the Components of the Year on Stand no: 514 at Electronics '79, Olympia, London.



ELECTRONIC COMPONENTS IV

"COME AND SEE WHY MILTON KEYNES IS BECOMING TO ELECTRONICS WHAT ABERDEEN IS TO NORTH SEA OIL"

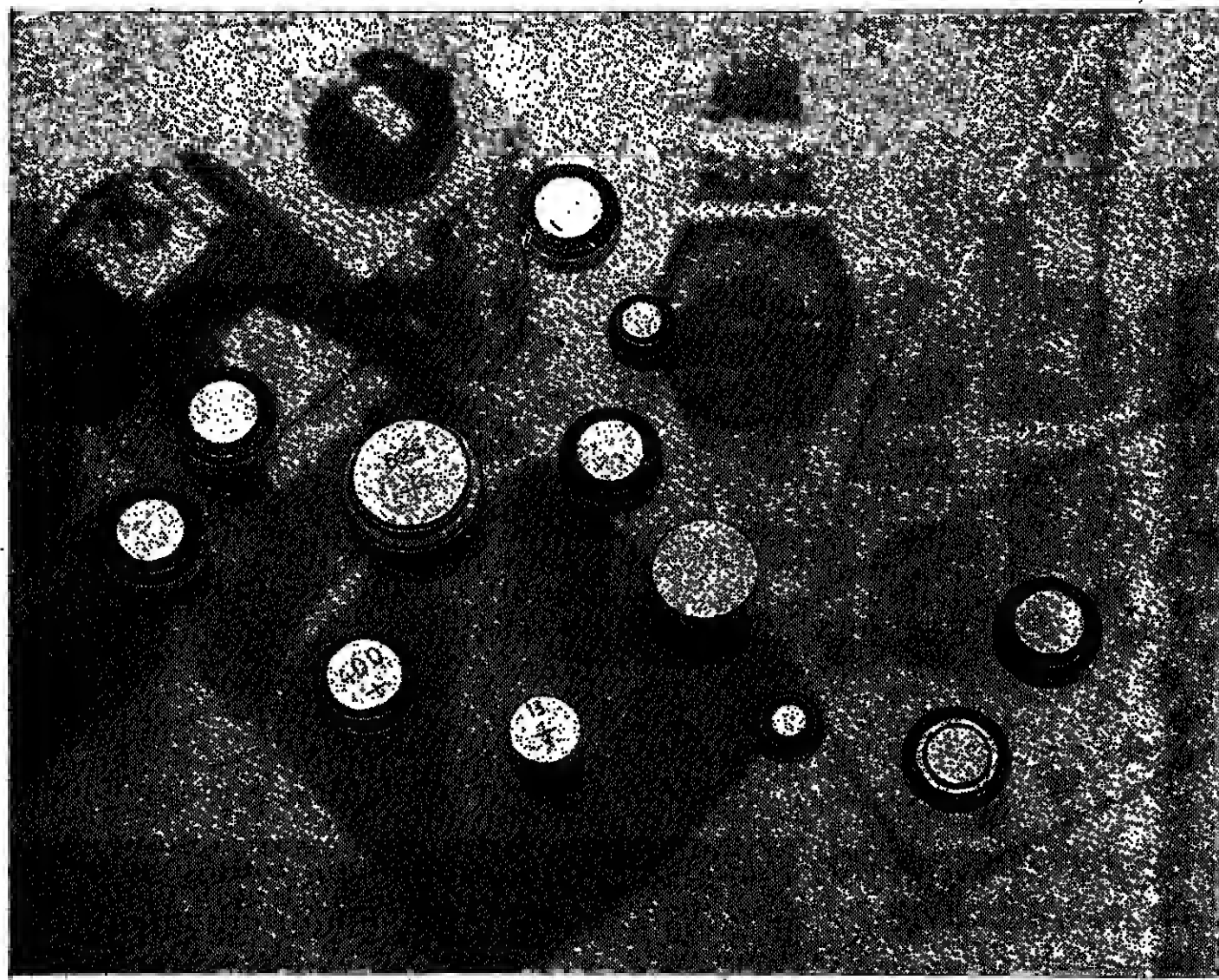
Milton Keynes is the big attraction for the electronics industry these days.

Meet, and talk to Alan Counce, our electronics industry adviser, on the Milton Keynes Development Corporation stand at Olympia.

His job is to make life easier for any electronics company to relocate or expand in Milton Keynes.

He can help your next move be as painless and profitable as possible.

See us on Stand 702 in the Electronics '79 Exhibition Nov. 20th-Nov. 23rd, at Olympia.



Our Micro Power

As revolutionary developments take place, for example in the field of electronic microprocessors using silicon 'chips', a whole new generation of battery using devices, each with its own special portable energy requirement, is being produced.

The Berec Group, Europe's leader in portable energy, is already producing batteries to meet these requirements, and the advanced projects group is tasked to investigate applications and systems for the future.



Berec Group Limited
Developing the future in portable energy.
Formerly Ever Ready Company (Holdings) Limited.

OPTOELECTRONICS

MICROPROCESSORS are not the only glamour components of the electronics world—components which rely on light for some aspect of their operation are growing in popularity as fast as microprocessors.

These components live in the world of optoelectronics and include such devices as semiconductor lasers, light-emitting diodes used for calculator displays, and optical fibres. The largest market for these components is in telecommunications where there is a great amount of development work being carried out on the use of optic fibres—tiny hair thin strands of glass, carrying light to replace conventional copper wires for transmitting speech, television pictures and computer data.

Most countries in the world are engaged on work of this kind and the National Economic Development Council's components Sector Working Party in the UK stated that this was potentially one of the most important areas of electronics. It made recommendations last year that Government support should be given to encourage British companies to develop practical systems. However, it is unlikely that any formal help will be given to this sector in the light of government cut-backs.

However, the real profits in optic fibres are not expected to occur until the late 1980s, according to market analysts Frost and Sullivan. Demand for optic fibres is estimated to be about \$1bn worldwide which

will increase to \$90m by 1987 and then by 1992 will be worth a staggering \$170m. Much of this demand is expected to come from the provision of wired homes services such as cable television, automatic reading of electricity and other types of meters and, electronics funds transfer.

Companies such as Plessey, the General Electric Company, British Insulated Calendar Cables and Standard Telephone and Cable in the UK, Pirelli in Italy, Thomson CSF in France, Siemens in West Germany, and Corning Glass and ITT in the U.S., all have an interest in the telecommunications use of optic fibres.

Forecasts

Some forecasts estimate that this market will be worth \$120m by 1992, although it will only be worth \$32m in 1987. However, a system which used optic fibres needs other optoelectronic components as well. For example, either a tiny semiconductor laser or light emitting diode is needed at the transmitting end to generate the light over which the information is modulated.

At the receiving end, photodiodes, which are sensitive to light, convert the light into an electric current which is then converted into speech or data.

Semiconductor diode lasers which are tiny lasers made out of a material called gallium arsenide has a number of applications which lie outside the telecommunications field. For example, ITT has projects which range from missile guidance, taking measurements in industry and photocopying applications.

Other applications include intruder and fire alarms, safety

guards in machines, and in weapon simulation and ranging systems, as well as use in point of sale terminals (cash registers).

There are different types of semiconductor laser diodes which are used for a variety of applications. For example, ITT has developed a laser which produces pulses of high power, which when used in groups, called multiple arrays, can produce an optical power of 1kW. These are used in ranging, proximity fusing and weapon simulation for lower cost military training.

Another type of laser which produces high peak and mean power is used in free space optical communication links and night vision compatible infra red illuminators. Areas of applications include military and civilian use for data and voice links.

The continuous wave lasers which can work at high frequencies in excess of 1,000 MHz while giving high power, can be used with optical fibres. This type of device forms part of the telecommunications links being evaluated by companies around the world.

Existing laser diodes produce light which is in the near infra-red range of 800 to 910 nm. This is the result of the use of the material called gallium arsenide. This material is widely used for the light-emitting diodes, displays which are used for digital watches and calculators.

Developments are trying to cut down the amount of power which is lost when the lasers are used with optical fibres. This enables telecommunications links to be made longer without having to boost the signal strength at frequent

intervals which cut down the cost of installing such systems. Optoelectronic devices which emit light in the infra-red are to be found in night vision cameras for security and military applications. Companies such as Thomson CSF in France manufacture cameras which can be used for high speed infra-red photography.

ITT has also been active in developments of this kind. For example, it produces devices which emit infra-red radiation and the company claims that under typical low light level conditions, the radiation from these sources can improve the resolution of night vision sights by 300 per cent.

ITT says that some of its equipment is suitable for observation and infra-red photography. Applications are expected to include history and closed circuit television.

Such devices have a wide variety of uses in industry. Another application for lasers is in audio and video discs. In these systems tiny light sources are needed so that the lasers replace the conventional stylus. Light is aimed on to the revolving record disc on which the music is digitally recorded.

Quality

The laser does not make physical contact as a diamond stylus would, so there is no disc wear, and, because of the optics, any dust, scratches or finger marks on the disc surface does not affect sound quality.

Lasers are also being used to read product bar codes—the black and white stripes which are appearing on every supermarket item. The compact size of the laser diodes enables it to be used in light pens where the operator draws the pen across the bar code. Alternatively, the laser may be mounted across a checkout point to automatically read goods which are passed by it.

In Europe, although the three main markets in military, industrial, and communications are of about equal value, each country is appearing to specialise. For example, France's major interest is in the military market, for missile guidance and proximity fusing.

Germany is involved in all three except that its military market is most developed. However, it is also involved in fibre optic communications and in photocopier and facsimile systems.

Italy has taken a significant interest in communications and industrial markets while Switzerland is progressing in the military and communications sectors. The Netherlands, dominated by Philips, is leading the industry sector with developments in optical and audio disc recording systems. Also it is a leader in pollution monitoring systems.

Finally, Scandinavia's main developments have been in missile guidances and proximity fusing, although some advances have been in control and measurements for industry.

Elaine Williams

POWER SUPPLIES

THE LAW of conservation of energy neatly reminds the engineer of the limitations of his technical arena. If work is to be done, then no matter how carefully he arranges his machines or other devices, energy must be applied at some point if activity is to take place. How that energy is fed into the vast array of electronic devices now available is clearly a vital factor in the efficient running of any electrical or mechanical system.

Although at the uncomplicated end of the power supply scale a 1.5 volt cell (a "battery" is a collection of cells joined either in series or parallel) may be adequate to provide a polarising and amplifying voltage for say, a capacitor microphone, at the other end of the scale a power supply for a relatively complex microprocessor system may require up to six independent supplies, some negative and some positive, with possibly a variable voltage facility as well.

Design

The central problems which the power supply designer has to meet are those of the safe extraction of power. In most cases, the domestic mains electricity supply or the conversion of portable (battery) direct current power to a form which can be used in a versatile and efficient manner.

Transformers have for many years been the heart of the linear (as opposed to switched-mode) power supply. Although not restricted to power supply applications, the transformer probably appears more in this type of circuit than any other, especially following the demise of thermionic valves in radio receivers and audio amplifiers, which needed coupling transformers to match valves to loudspeakers. The appeal of the principle involved is that electrical energy can be transferred from a high voltage source to that of a controlled alternating current or direct current level (or levels) and converted into manageable quantities.

Primary and secondary windings are coupled electrically (magnetic flux) through an iron core, giving a large measure of safety to the user as there is no direct physical connection. Within the last decade or so other means of isolation have appeared, including the technique of "opto-coupling" where a light beam is modulated and made to carry electrical energy.

Switched-mode power supplies also use a transformer, but the circuit method used allows the transformer to be smaller. A fast-switching transistor (or two) "chops" the input, which may be either ac or dc (a linear supply can only function on ac). The transformed output is rectified and filtered and the

output fed to the equipment.

Advantages of switched-mode supplies include freedom from mechanical noise, approximately twice the overall efficiency of conventional supplies, about one sixth the volume and a quarter of the weight, plus savings in general cost and the ability to operate (on standard mains) with a much smaller reservoir capacitor, giving further savings.

Disadvantages of switched-mode operation include a tendency to radiate high frequency interference and a comparatively poor output ripple performance, although careful design can minimise this.

This technique is being used increasingly to supply systems in the "open frame" category of microprocessor as well as in the versatile "powercard"

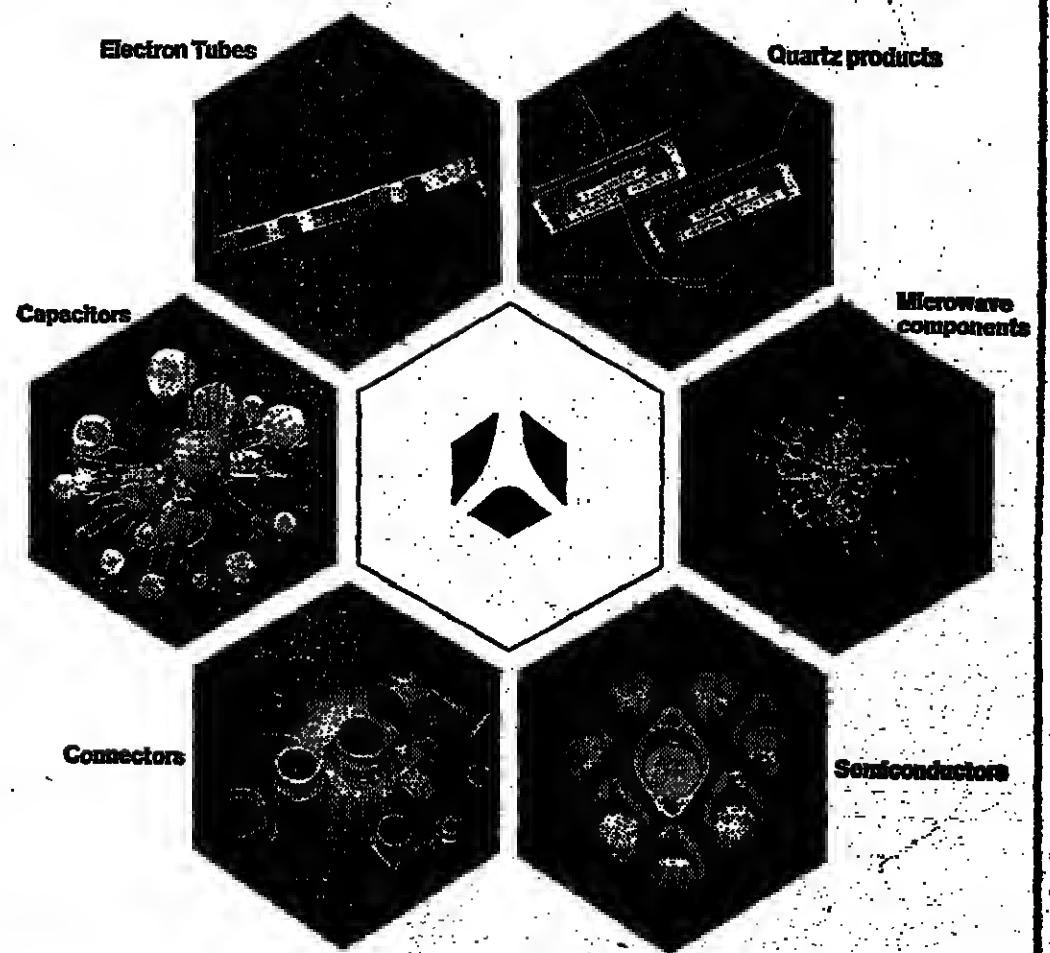
form of dc-to-dc converter, an ideal supply where the need is to power linear and digital integrated circuits at levels of 5V, 12V or 24V from a battery. In general, such units offer overvoltage, undervoltage and overcurrent protection—an economically sensible feature considering the cost of many processor chips.

Centralised power supplies for microprocessors are generally of the switched-mode type, and although they usually offer only three fairly inflexible supply rails, are, as with most switched-mode units, comparatively cheap.

Switched-mode supplies are also being developed for use in electron beam welding, neon lasers and X-ray electronics, all applications where their characteristically poor output regula-

CONTINUED ON NEXT PAGE

You name it—we've got it



See us at "Electronics '79"
Stand N° 106-206
OLYMPIA, Nov. 20-23



THOMPSON-CSF COMPONENTS AND MATERIALS LTD.
RINGWAY HOUSE / BELL ROAD / BARNINGFORD HANTS RG24 0QG / TEL. (0256) 29,105

هكذا من التحول

Big improvements in design

PRINTED CIRCUIT BOARDS

THE PRINTED circuit board (PCB) has superficially at least become the poor relation of the integrated circuit in recent years. The rapid miniaturisation of the latter, and its frequent price reductions, are factors with which the PCB could not compete on a similar scale. It is the chip that has therefore dominated the headlines.

Yet enormous improvements have also been made in the design and manufacture of PCBs, producing similar results—increasing miniaturisation, greater reliability, and a much wider range of types of board, suitable for use in many more demanding environments. And it will be a long time before the PCB is made redundant in its role of connecting device with the outside world.

The PCB market's health can be gauged from the minimum growth rate predicted for it over the next two years—15 per cent—with many of the leading companies expecting to increase turnover by as much as 60 per cent. The total value of the British market is expected to reach \$110m by 1982 compared with an estimated \$90.5m now, according to a recent survey by BPA (Management Services) of Dorking. It predicts the two biggest areas of growth will be consumer, growing from £5.5m to £12m, and communications, excluding telecommunications, growing from £18.5m to £36m by 1982.

The industry is dominated by small companies. Of the 600 or so manufacturers in Britain, only 40 have turnovers larger than £1m; ten each fall into the £1m-£1.5m and £1.5m-£2m categories, and about six have turnovers above that level, mainly subsidiaries of electronic giants such as ICL, Marconi and Plessey.

Innovation

Much of the technological innovation in PCBs comes from the United States, particularly from Photo Circuits, which specialises in research and development, preferring to leave production to others, to whom it licenses its developments. This split between research and production is typical of the independent sector of the industry. Other work is carried out principally by the world's leading electronics companies such as IBM, Philips, NEC and Honeywell, but much of this remains in-house.

The two most significant technological developments in the last few years have been miniaturisation of board components and the automation of design, and the former has accelerated the development of the latter. Now, 50 times as many components can be put on an average board compared with ten years ago and, as with the chip, the complexity has demanded auto-

matic computer routing systems to keep the connection lengths to a minimum. This is one area where the PCB is considerably more advanced than the chip, since though the chip features much more data, the design involved is often much simpler.

There are currently a few completely automatic design systems for PCBs available, but they do not yet have sufficient general application. Mr. Bob Hillier, of Rascal, says: "The designer needs to tailor his own needs to his own systems and that makes it very difficult to automate the process. If you took boards of five years ago, we can now automate them, but we can't yet automate today's boards."

Mr. Hillier sees another difference in the design of PCBs and integrated circuits in the constraints of the size of the housing units. "You can vary the chip size within limits to meet your requirements, but with PCBs that's much more difficult since you have to get them into racks of a certain size."

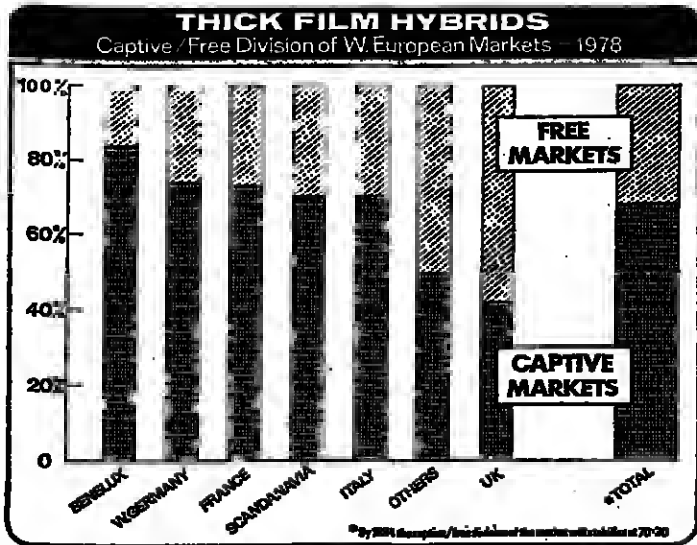
The miniaturisation of components has led to the production of stable multi-layer boards, with four-layer boards already becoming very popular in the U.S. But because the printed circuit board is used as an interconnecting device, and because electrical engineers are always seeking to reduce the number of interconnecting units in a system, the actual boards have not got smaller. Mr. Bill Miller, managing director of Prestwick Circuits, one of the leading independent PCB manufacturers, thinks they have even increased in size.

The increasing sophistication of design and production techniques has demanded much higher capital investment. This poses a problem for many of the very small firms making PCBs, in a period when the cash for that investment is unlikely to be easily available.

Mr. Miller sees this as the single most important factor in the industry, above any technological developments, and one which will determine a company's success in the next few years. He attributes Prestwick's own growth rate, and that of some of its competitors, to it.

"Production equipment is on average less than three years old, and to continue to make the necessary investments we have to carry on growing at something like the present rates," he said.

Mr. Miller's message is echoed by BPA's survey, which claims that under-capitalised companies have done badly in the last year, despite the buoyancy of the market. One of the technological developments that will require the greater investment is the flexible PCB, already worth £3.7m according to BPA, and likely to reach £11m by 1982. The ability to bend PCBs has widened their use, particularly in aerospace, where space is at a premium. The cost is high, though.



The European market for thick film hybrids is likely to be one of the most significant areas affecting the printed circuit board industry in the next decade. Britain's smaller captive (that is, in-house) market is regarded as a disadvantage, since much of the technological innovation comes from the larger companies, producing in-house.

A parallel technological development with great significance for the PCB is the thick film hybrid circuit, and to a lesser extent its companion the thin film circuit. These are circuits that are deposited by screen printing on to ceramic baseboards, and effectively form a bridge between the integrated circuit on one hand and the printed circuit board on the other. Thin film circuitry has proved very difficult to produce in volume, although it gives great precision, but the thick film market is now put at between £30m and £40m, and is said to be growing at between 30 and 40 per cent a year. The telecommunications market is the major source of growth, with the military a strong second. In Europe, BPA estimates that the total market will be worth £320m by 1984.

The significance of the thick film circuit, apart from its role as chief competitor in certain areas, lies in the possibility of a future marriage between the two, according to Mr. Keith Gurney of Technic. "It is very desirable to make thick film circuits which are compatible with PCBs. At the moment, the thick film circuit is simply added to the PCB, but there is a tendency to combine the versatility of shaping of the PCB with the stability and reliability of the thick film circuit." The final logical development of this would be to incorporate the third element of the triangle—the IC—as well, something that is not happening yet but which Mr. Gurney is convinced will occur soon.

The relationship between the chip and the PCB is seen by everyone to be complementary rather than conflicting. "The chip is too small to interfere with the human being," Mr. Miller says. "You have to put the chip on something and then connect it with the outside world and the PCB is a remarkably efficient way of doing that."

But he admits that there is a question mark. "In five years' time the chip may have become so clever we wonder if the PCB we are making today will still be wanted." That doubt centres on the dominant type of PCB, the glass-plated through-hole device, which accounts for about half the British market. The complexity which miniaturisation creates may make connection by pins impractical and other techniques will be evolved.

The capital investment which is so vital now is thus not simply a case of putting money into specific production equipment. There is also the question: What sort of equipment?

David Boothroyd
Electronic Times

Versatility

CONTINUED FROM PREVIOUS PAGE

tion is not a critical factor. Whether conventional supplies or switched-mode supplies are used, there is often a need for regulation or stabilisation. This can easily be catered for by the inclusion of either a monolithic or hybrid regulator, and these are now available in chip form providing current as high as 10 amps.

Another option open to the computer system or instrument user is the custom-built power supply unit (psu) in the form of a bench instrument which provides a range of stabilised output voltages, some variable, and often at high current. This type gives a considerable margin of flexibility in powering-up, although is on the whole a more expensive approach than the integral supply unit.

New outlets are appearing for the psu manufacturer, one of them being the CAMAC digital control system. This is a development with special relevance to automatic test equipment and will probably make use of switched-mode units driving photomultiplier high voltage generators for breakdown testing of semiconductor and passive components.

While improvements have been made in transformer design with the notable emergence of the toroidal mains transformer, featuring a low profile, making it suitable for printed circuit board mounting and a virtually undetectable magnetic field, the most efficient method of power supply is that using solar cells. Although still expensive and at the moment limited to low current applications, this is probably the most important energy crisis-related development of recent years.

Energy is, however, not directly available in the same way as from the mains. The easiest method, for example, uses solar cells to charge lead-acid batteries, and although at the moment the stored energy is only being used to power radio communications circuits, there is no reason why dc to dc converters should not be used to convert solar energy to supply digital equipment as well.

The most efficient, but in some ways the most convenient, source of electrical energy is the chemical cell or battery of cells. The power from such batteries has been roughly assessed at five to six times more expensive than the mains supply, but the range of uses to which chemical cells can be put makes them attractive to the consumer. The basic Leclanché (dry) cell, or zinc/carbon type is still in wide use and remains the cheapest of the range but, as with all such cells, it provides full working potential only at the moment of switch-on—output voltage and current flow begin to fall away from the first instant of use.

With the exception of lead-acid batteries, the only fully rechargeable type is the nickel/cadmium cell. Although it offers longer life and greater energy level than the basic dry cell, additional expense is involved in providing a charger, which must be a constant current unit. Furthermore, owing to the low internal resistance of the cell, they cannot be connected in parallel.

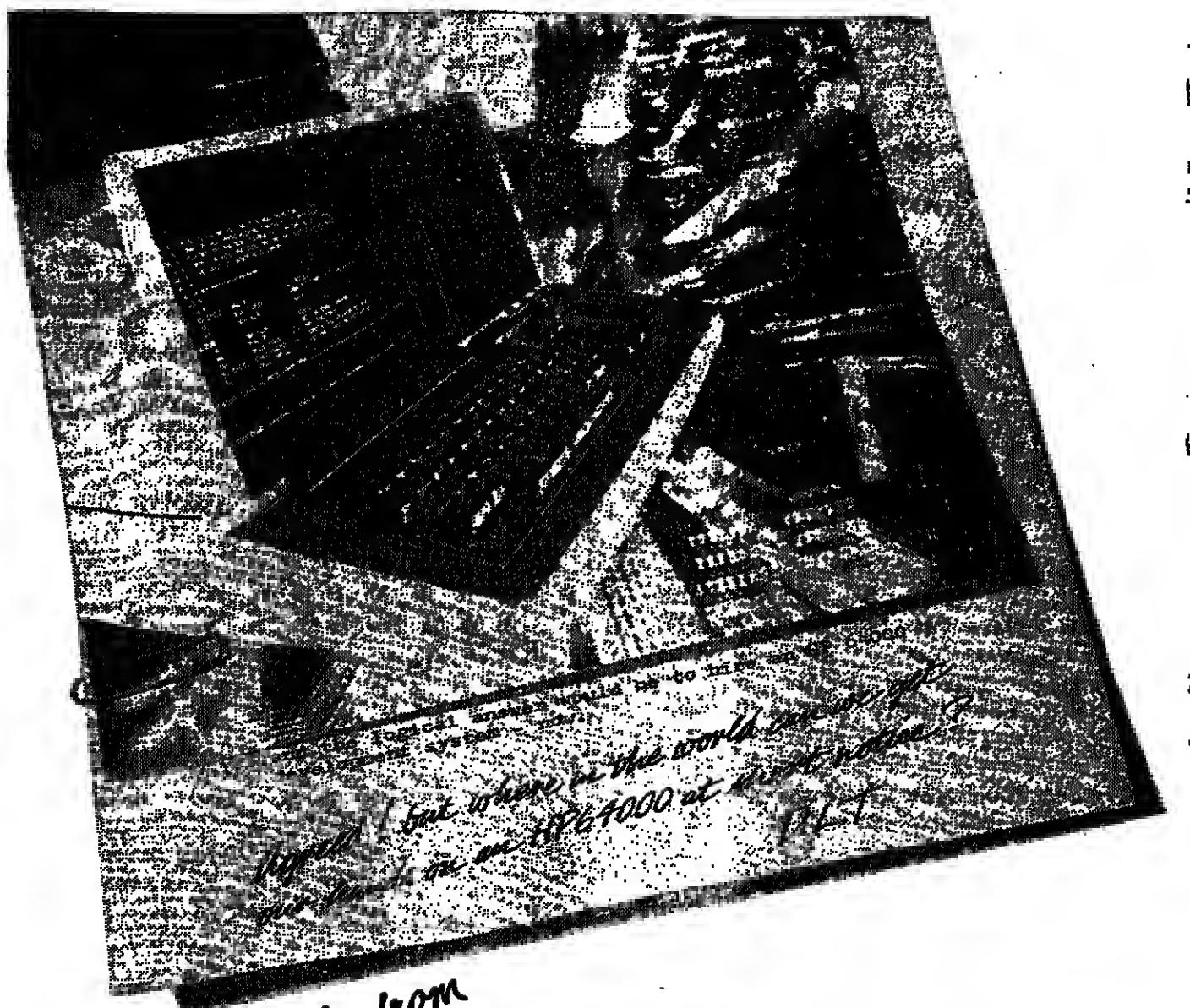
The only significant recent development in this field has been the emergence of the lithium cell. The remainder of the battery field is concentrated into sulphur dioxide/lithium (Mallory) and silver oxide. Each form has an application related to circuit demands. Mercury cells are mainly used for long, slow, low-current drain, such as in bearing aids; silver oxide where high levels of pulse activity are a typical—digital watches, cameras, and calculators using liquid crystal displays, while alkaline cells and nickel/cadmium types are used in heavier current applications such as in torches, portable instruments, tools, inspection lamps and cassette recorders.

Dominant

Although there are plenty of cheap zinc/carbon cells available in the UK, some of them of dubious quality, the reliable product end of the market is still dominated by Eveready (Berec Group), Crompton Vidor and Mallory. The main changes in the future are more likely to be in packaging of batteries rather than pure technical development, if the opinions of those in the trade are anything to go by. As MPU-based games and toys increase sales so small, boxed batteries about the same size as the well-known PP3 or PP6 will be made for them.

Batteries provide the purest form of dc current. The committed "mains-only" user, however, would be justified in pointing out that this portable power is only obtained at a premium, but as with most technical aids, it is its versatility in use which dictates the intrinsic value of any form of power supply.

Ted Parratt
Wireless World



Only from

Livingston Hire

No. 1 in Europe - by any measure

Quite apart from our range of Microprocessor Development systems there are around 700 other equipment types - from an AVO to a Spectrum Analyser - all available for rental on a weekly basis.

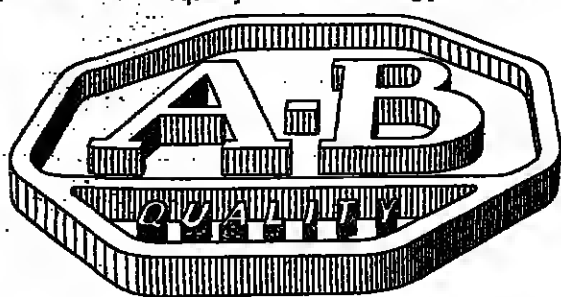
Just phone for our 1980 catalogue.

Livingston Hire Limited,
Shirley House, 27 Camden Road,
London, NW1 9NR.
Telephone 01-267 3262
Telex 23920

Our most important component

The world famous Allen-Bradley symbol on our products really means something. It means each component has been quality controlled for reliability. It means each component incorporates years of research and development. And it means each component will give, at its price, the most cost-effective performance possible.

- * Quality is remembered long after price is forgotten
- * We listen—we respond
- * If you're really serious about cost, be serious about quality
- * Repeatability of quality is a matter of experience
- * Quality counts in the end
- * The straightforward method of reducing your costs



It's worth paying for quality that pays you.

ALLEN-BRADLEY ELECTRONICS LIMITED
Bede Industrial Estate, Jarrow, Tyne and Wear, NE32 3EN
England. Tel: Jarrow (0632) 697771 Telex: 53353

Electronic Components and Equipment CONSULTANTS REQUIRED

We wish to retain consultants to prepare reports analysing and forecasting the European and/or Far East markets for:
* ELECTRONIC COMPONENTS * MEDICAL ELECTRONICS * MICROFILM
Product knowledge essential. We are an internationally known firm and can provide continuous assignments. Replies will be kept strictly confidential.
Write Box A4966, Financial Times, 10 Cannon Street, EC4P 4BY.

The five dumbest products in the world.

National Semiconductor established in the UK to serve UK industry

There they sit. Five products with no intelligence whatever. And you can't blame the people who made them. Because until now, nobody had the technology to make these products actually think.

So we've had cars that can only respond to their drivers' commands, while they charge inefficiently on.

Homes that know only if it's too hot or too cold, while all hell breaks loose outside.

TV sets that can only reproduce what the station tells them to reproduce.

Telephones that can only send your voice from point A to point B.

And toasters that can't tell the difference between a crumpet and brown bread.

The fact is, these products haven't really changed in more than 20 years.

But what if there were a miniature computer that could make them think? A little brain that could make them sense a situation, make a decision, and do something about it?

Hidden in the air filter of your car, this computer could adjust your car's engine mixture to compensate for changes in temperature, humidity, air pressure and fuel volatility. To give you optimum petrol consumption and minimum pollution anywhere, anytime.

Recessed in a wall of your home, it could do the obvious things like control temperature, humidity, and air purity. But it could also water



the lawn, warn of fire, scare intruders, turn off the lights, and calculate the family budget.

Inside your TV set, it could turn on your favourite programmes automatically, serenade you with music when the commercials come on, read bedtime stories to the kids, and do your income tax.

Concealed in your telephone, it could call the fire brigade automatically, time your calls, restock your larder, start the coffee, mix your drinks.

And in your toaster, it could create the impossible: a perfect piece of toast.

What if?

Well, it's not a "what if," it's here now. In a miniature computer no bigger than a packet of cigarettes.

It's called a microprocessor, and it is currently selling for only a few pounds.

It's already been ordered by hundreds of manufacturers.

Including people who make appliances, automotive equipment, and TV sets.

So it looks like some of the products on this page won't be dumb for long.

With National, perhaps your product will disappear from this ad sooner than you think.

National Semiconductor Making technology work.
301 Harpur Centre,
Home Lane, Bedford MK40 1TR
Tel: Bedford (0234) 47147 Telex: 826209

ELECTRONIC COMPONENTS VI

Thick and fast

Stability Electronic Components, the all British Thick Film manufacturer brings a new sophistication to Thick Film circuits.

Major investment in ultra-modern computer controlled equipment, operating in a modern factory complex, enables Stability to offer quality products in volume — at an economic price.

Stability Electronic Components, the Thick Film manufacturer to rely on.

STABILITY ELECTRONIC COMPONENTS LTD

Cranes Farm Road, Basildon, Essex.
Tel: Basildon 21262 Telex: 99456

Stability is a member Company of Lucas Industries.

Impressive sales increase

ACTIVE COMPONENTS

ACTIVE CIRCUITS are generally classified as linear or digital, although a third group is emerging which combine both linear and digital elements such as analogue to digital converters with the huge growth in microprocessor-based systems, mos (metal oxide semiconductor) digital ics (integrated circuits) have become the largest group and these are currently divided equally into logic and memory types. Sales of mos devices have increased to the point where 50 per cent of all ics manufactured use this technology. Bipolar digital ics now account for around 30 per cent of sales, which leaves linear devices with only 20 per cent of the market.

While semiconductor technology is advancing in all product areas, it has reached a gallop with digital mos and designers now expect a new generation of devices every two to three years. The graph shows past and predicted sales of dynamic rams (random access memory) since 1970. As can be seen, the industry has seen the wax or wane of four generations of memory within 10 years.

The 16K ram is now the most popular memory device in production and will hold that position for at least two more years. As sales have not yet peaked there is a growing fear that demand will exceed production. This feeling appears to be reinforced by Mostek, currently the world's largest producer of 16K rams, which has just reported that sales have

increased by a huge 77.5 per cent for the past 12 months. Even more impressive is a 24 per cent increase in sales over the second quarter.

Intel, the world's largest manufacturer of mos parts, has introduced the 2118, a high performance 16K device which uses their hmos (high performance mos) technology to give high speed operation—100ns, and low power consumption—150 mW, from a single 5v supply.

Although this device offers high performance and is easier to use than multiple supply types, the 2118 costs around \$10 compared with a typical price of \$5.5 for general-purpose versions. However, if the 16K demand cannot be met, any device that is available will sell despite its cost.

Significant

Another development from Intel, and far more significant, is its bubble memory package. Although this technology is in its infancy, the manufacturer reckons that bubble memories will be suitable for 10 per cent of all microprocessor applications, which represents a large market. Because conventional dynamic or static memories use transistor elements to store digital information in the form of ones or zeros, capacity is limited by the number of transistors that can be produced on a silicon chip.

Bubble memories, however, make use of magnetic bubbles in a thin ferromagnetic film, and by moving the bubbles they can be made to represent a one or zero with a much greater storage density. Another

important advantage of this technique is the non-volatile storage—if the power supply to the device fails, information within the memory is not lost as is the case with normal types.

Intel's first commercially available bubble memory is a 1M bit device organised as 128K bytes and a few pundits have proclaimed that this development will make floppy and hard disc drives obsolete within three or four years. Intel prefers to adopt a more conservative approach. Today, one bubble memory plus a set of chips to drive and control the device is priced at around £1,200 whereas a 2M bit (twice the storage) floppy disc drive and controller can be purchased for as little as \$500. With hard discs the cost per bit is substantially lower. Ferranti recently introduced an eight-inch Winchester based hard disc store which is priced at around £1,000 and accommodates 20M bytes.

Although all disc drives can suffer from mechanical problems, it will be at least five years before bubble memories begin to compete seriously. For this reason they are likely to be used initially in applications where space is limited or portability is important.

Although the memory men are enjoying an avaricious market, other manufacturers are also reporting increased sales. Analog Inc., whose sales for the last year reached the magic \$100m mark is planning for a 30 per cent growth next year. One-third of these sales were for monolithic and hybrid digital to analogue and a to d converters. Again, the microprocessor boom has significantly increased sales of devices which convert analogue information from, for example, a flow meter in a petrol pump to an 8, 10 or 12 bit word which a microprocessor can handle. When the information is fed out it can go through the reverse process, d to a, to drive a meter movement, etc.

Analog Devices, a subsidiary of the industry's first 12 bit 5MHz a to d converter which is intended for applications such as radar digitising, digital communications or real-time spectrum analyses. Although the company feels that this is a breakthrough in high-speed conversion, it intends to improve accuracy to 14 or 16 bits during 1982.

Another subsidiary specialising in video converters is currently producing an 8-bit 20MHz a to d circuit and is developing a 10-bit 30 MHz version.

As well as converters, Analog Inc. has several i c production plants. About a year ago it introduced a new temperature transducer i c that uses the band gap principle (a parameter natural to semiconductor mate-

rial) and which produces a current proportional to temperature. As the most common measurement made is that for temperature, and a vast amount of energy is wasted in the form of heat, the potential of this 2L30 replacement for thermocouples is enormous. With this in mind the manufacturer is already developing more accurate and cheaper versions.

While the power and reliability of electronic components has not been exploited to any great extent in the British automotive industry, a great deal of development is taking place in America and West Germany. RCA is very active in this market and is currently offering custom designed large scale integration (lsi) control circuits for ignition and fuel injection systems.

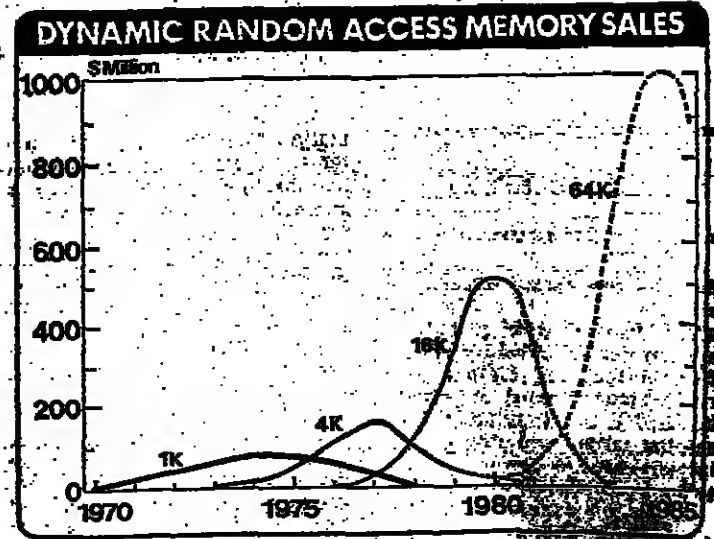
These devices use complementary mos technology which provides very low power consumption and high noise immunity, both of which are important features for automotive use. With the new exhaust emission control regulations in America and a general campaign to save energy, much more interest in electronic control has arisen and RCA is now offering a computerised lsi design facility which can reduce the turn-around time to 24 weeks.

Exports

Although many industrial markets show no signs of recession at present, several component manufacturers are not promoting their consumer products in anticipation of a slump. Plessey, however, which is currently boasting exports totalling 55 per cent of all sales and has had a 35 per cent annual growth rate for the past six years, is opposing this trend and investing most of its development funds on consumer television and telecommunications. Plessey manufactures a complete range of linear ics for pal colour television receivers and other consumer ics for touch control and infra-red or ultrasonic remote control. A recent spin-off from these devices has been a simplified remote control system for the toy market. These ics were launched in April this year and sales have already topped 1m.

Another interesting linear product is a zero-crossing power control circuit which takes a temperature sensor. This device is aimed at the hair-drier market where there is a possibility of accidental injury or fire from overheating. The circuit operates by sensing the temperature of reflected air and controls the heating element accordingly.

Mike Sagin
Wireless World



SEE HAKUTO THE HEAVY-WEIGHT LIGHT MOB!

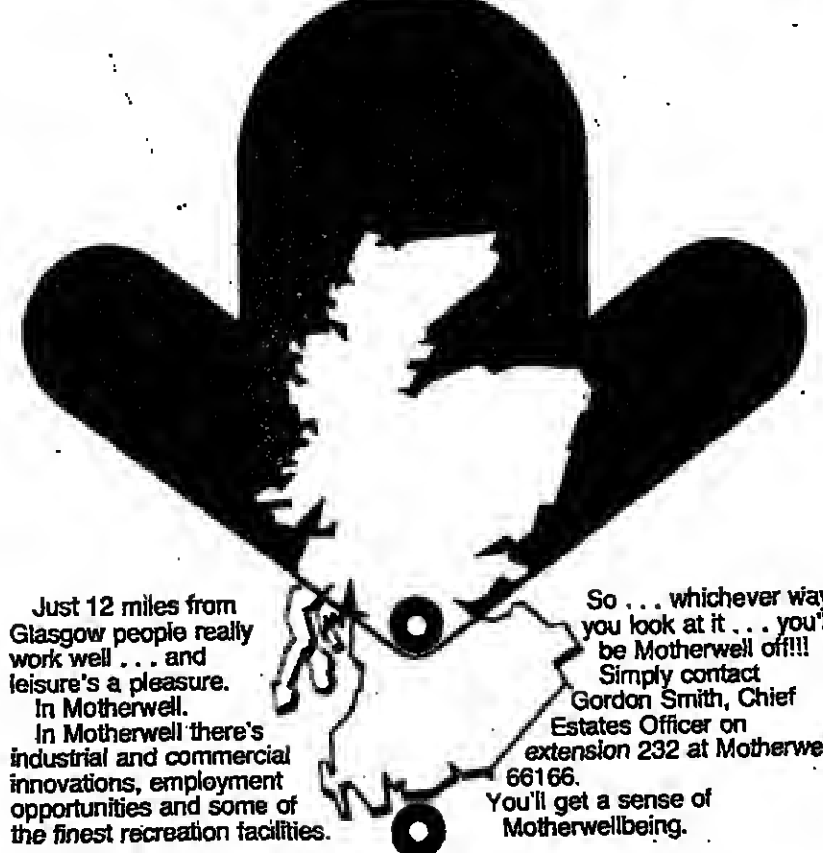
If you want high-quality precision light measuring equipment see our range first. Pin Silicon Photodiodes, Optoisolators, Silicon Photocells, GaAsP Photodiodes, etc. We are the sole distributor in the U.K. for Hamamatsu the world's largest manufacturer of light measuring components. Wherever light — or the lack of it — is a factor, our expertise covers the entire spectrum.

HAKUTO International

Right every time for light.

Hakuto International (U.K.) Ltd.
557-563, Rayleigh Road, Leigh-on-Sea, Essex, SS9 5HH
Tel: (0702) 526622 Telex: 99353

Motherwellbeing - simply a better standard of living



Just 12 miles from Glasgow people really work well... and leisure's a pleasure. In Motherwell there's industrial and commercial innovations, employment opportunities and some of the finest recreation facilities.

So... whichever way you look at it... you'll be Motherwell off!!! Simply contact Gordon Smith, Chief Estates Officer on extension 232 at Motherwell 66166. You'll get a sense of Motherwellbeing.

MOTHERWELL - we're working well

Motherwell District Council - Civic Centre - Motherwell ML1 1TW
Tel: Motherwell 66166 (extension 232)



Don't waste your time looking for High Voltage Darlingtons.

Come straight to stand 721 at Olympia for a complete UK-manufactured range.

Lucas Electrical have been pioneers in the development and production of all kinds of Power Semiconductors for over 20 years. Our new range of High Voltage Darlingtons is British-made, competitively priced, and readily available.

Check the features for yourself:

- High voltage — 500V Vcbo
- High current — 20A Ic peak
- High energy capability — 550mJ
- High gain — typically 700 @ 3A Ic
- High reliability
- Fast switching speed

Add to this the experience and technological resources of one of Britain's leading electrical and electronics groups, and you won't want to wait a moment longer. Clip the coupon for full details.

Lucas Electrical
Lucas Electrical Ltd., Electronics & Systems Division,
Mere Green Road, Sutton Coldfield,
West Midlands B75 9BN. Tel: 021-308 3501.

Expanding transducer market

INTERFACE DEVICES

BROADLY DEFINED, a transducer is a device which turns a signal from the outside world into an electrical signal. Any form of stimulus is viable, and there are many ways in which the output can be used. It is probably better to divide the classes of transducers according to how their output is used, rather than what they measure, since the same sensing device can often measure different forms of stimulus, depending upon the way the information provided by it is used.

Traditionally transducers, using the term very broadly to include electro-mechanical devices, have been used in the control of processing and manufacturing variables. There are very few parameters which the process engineer has to normally concern himself and of these heat is far and away the most commonly measured. Other useful variables to measure include flow and pressure or force.

Because traditional methods have been so firmly entrenched in the area of process control, it has seemed that, as the electronics revolution has swept through industrial and consumer goods, this area has been left far behind. That may be so, but it is because the devices which have always been used were reliable and reasonably accurate, and it was futile to concentrate upon it when other areas were more in need of innovation. This will not continue to be the case. Bestobell, which claims to be the first to have introduced the flowmeter (a device which measures liquid flow) into England from the U.S., are now looking at what they can do with the information that a flowmeter provides. It is channelled away to the control room

at present, and quite often has to be changed into more useful form—for example, rate of flow into rate of change of flow.

In cases like these, electronics hardware can be invaluable for providing information at the site of the reading. A microprocessor can work out all the variations of the basic reading and supply an answer far more quickly than old systems. We can expect to see the process control market jumping quite heavily upon the microprocessor bandwagon within the next year.

This will not affect the primary sensing device. There just has been no revolution in this area, although innovations with semi-conductors have been tried. A few years ago a strain gauge which was encapsulated in silicon was first marketed. Unfortunately, this introduced more problems than it solved because semi-conducting materials are thermally unstable.

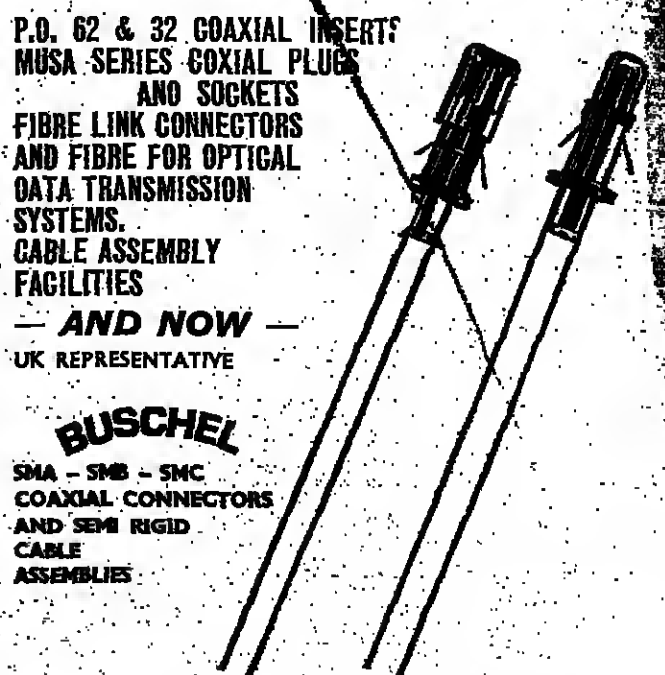
One of the biggest problems facing the engineer designing or using transducers is that he must measure his chosen variable without any other variable in the process affecting his measurement.

This can cause headaches, especially when the process is taking place over a large temperature range, as heat naturally affects volume and therefore pressure, density and therefore flow.

This is another reason why the transducers used at present are going to be dislodged from their market stronghold only with great difficulty. They have been developed over the years to such a pitch that they are now about as independent of other variables as it is possible to make them. Any new devices will have to be not as good, but better to justify replacing the old ones.

In the area of hard electronics, the picture is very different. The field of fibre optics promises to be the most widespread application for electronic transducers in the future.

RADIO FREQUENCY CONNECTORS



P.O. 62 & 32 COAXIAL INSERTS
MUSA SERIES COAXIAL PLUGS AND SOCKETS
FIBRE LINK CONNECTORS AND FIBRE FOR OPTICAL DATA TRANSMISSION SYSTEMS.
CABLE ASSEMBLY FACILITIES

— AND NOW —
UK REPRESENTATIVE

BUSCHEL
SMA - SMC - SMC
COAXIAL CONNECTORS AND SEMI RIGID CABLE ASSEMBLIES

LEE GREEN PRECISION INDUSTRIES LIMITED
GROTES PLACE - BLACKHEATH LONDON SE3 0RA
Tel: 01-852 2203

DE Dagnall Electronics

Transformers for Electronics

QUALITY in QUANTITY
0—500 VA
Mains Transformers
Audio Transformers

Custom Built to
BS - IEC - CEE - VDE - UL - CSA

Cranfield, Bedford MK43 0ED
Tel: 0234-750342 Tlx: 826681

هكزامن الثوميل

CONTINUED ON NEXT PAGE

ELECTRONIC COMPONENTS VII

New range of special applications

PASSIVE COMPONENTS

ALTHOUGH SOME aspects of all manufacturing processes are dogged by massive inertia and others characterised by free-wheeling momentum, recent gloomy remarks emanating from the CBI concerning sagging order books in British industry do not seem to apply to the passive components.

Reference to the "passive components industry" represents a somewhat artificial distinction, due to the fact that most of the great combines now involved in manufacturing active devices, display boards, floppy discs and other items of glamorous microprocessor paraphernalia, are also the main sources of passives.

Indeed, GEC, IIT and the Philips group are all heavily committed to the concept of "make and market" right through the process, from formulation of materials to tightening nuts and bolts or joining isomilar lumps of electrical material together.

Despite forecasts of doom for the passive components element, attendant upon the positively muscular development of chip and hybrid technology as fundamental of modern method, embracing several techniques of modular fabrication, the traditional discrete component market remains healthy.

The new developments in fabrication, rather than killing "steam radio" passives, are adding their own stylised markets, where demands of mounting space make hybrid circuits suitable answers to pressing problems.

In the domestic market, hybrid microcircuits are taking over car radio and cassette elec-

tronics, watches, medical electronics (such as pacemakers) and look certain to change forever professional areas such as radar, pmr (private mobile radio), state communications and satellite/misuse electronics.

However, the complete range of passives, which may be loosely defined as circuit components whose working states are not radically altered by the application of electrical energy and includes switches, connectors, lamps, fuses, cables, and so on, as well as the perennial resistor and capacitor, remains the staple building protein of most equipment.

Individual components are essential to the DIY, electronic servicing (including television servicing) and enthusiast audio businesses, where stocks of robust single items, immediately available off-the-shelf, are required. Modules are, of course, also available in the same form.

Application

New limbs of the industry are forming, with "special applications" components beginning to appear. These are extended performance (and more expensive) passives for use in unusual or critical electrical environments such as extremes of temperature or on vehicles where there is a continuous high level of vibration, moisture or dust.

One such item is IIT's KS10A aluminium electrolytic capacitor, which offers a capacitance range of 68 to 330,000 MFD, working voltage range 6.3V to 450V (dc) and a temperature range of -40 to +85 degrees C.

Previously, the upper temperature limit, relative to unfavourable output ripple, was about 65 degrees C. These qualities make it suitable for applications such as computer

power supplies or in switched-mode supplies. Such hefty characteristics would be very difficult to match in a tiny ceramic chip capacitor.

This "horses for courses" approach is supplemented by one door opening at another closes, particularly in view of the continuing use and development of switched-mode power supplies themselves. The circuit technique is a very useful one, offering efficiencies of about 80 per cent compared with linear supplies operating at about 50 per cent. Unfortunately, as with most circuits using s.c.r.s or triacs, a good deal of radio frequency interference is generated.

Developments in high voltage v.f.e.t.s, as well as offering the possibility of even more efficient switched-mode supplies, also offer the obvious advantage of enlarged output powers for these unofficial "transmitters." Passive components now enter the picture in the form of LC mains filters.

The implementation of BS900 (which has been lounging around in a diffident way for several years)—it became law in April this year—opens another door to passive components in this filter configuration.

The passive version gains on the cost front when compared with active band-stop filters. This particular British standard places a legal limit on the r.f.i. (radio frequency interference) which any piece of electrical equipment may emit. Whether the market for filters will be dramatically affected is debatable, but manufacturers can now make "clean environment" capital out of the inclusion of effective filters in competition with those who are prepared to risk the legal consequences of distribution without adequate suppression.

One point worth remembering is that in many areas of component production the new materials, such as conductive epoxies, are being used for parallel passive and active component manufacture—thin film capacitors have been in production since the early 1960s!

There is certainly nothing mutually exclusive about the techniques involved in thick film processes and those used to make conventional passives.

In the resistor slot, the connections between the two methods are clearly seen where, for example, precision potentiometers using conductive plastic track are being produced. These are particularly suitable for control circuits in automation where developments have forced the creation of robust conventional-form passives with wider

than usual tolerance and longer life.

Similarly, thick-film resistor networks show the bonding of necessity and method in passive component manufacture.

The key to the future of the passive market is, like the survival of any species of mammal, adaptability, in this case geared to the changing demands of society and industry. Until the early 60s, the industry was mainly linked to methods of hand-building of equipment and circuits, but the scene is now shifting to that of automatic insertion methods, where conventional wire-ended capacitors and resistors, as well as other components, are fed by machine automatically into circuit boards. This clearly involves the re-jigging of shapes, sizes and end connections, to account for mechanical and ergonomic constraints.

The main problems related to this shift are, for manufacturers and distributors those of options; whether to concentrate on volume production and sales of, say, axial lead devices (wire-ended components such as conventional wire-wound resistors which lay flat on the mounting board) on the assumption that if the Post Office chooses a particular new form, that this could lead to large orders, especially with "System X" in the offing.

Requirements

On the other hand, although axial lead components would be suitable for cable circuits, the contractors may well decide on radial components (pcb mounting types, for example) based on their superior suitability in the frequency-critical areas of signal processing. The same points could apply to optical fibre and microwave signal processing, although one certain market has opened, for dill packaged components, i.e. the computer industry, where there are some fairly primitive (switching) requirements coupled with limited space.

Another problem is that, with modular construction forging ahead, the component count on a single-board colour tv chassis falls pretty dramatically. Despite this trend, it will be a very long time before such items as s.c.r.t. base connectors, coil formers and especially hefty wire-wound resistors (load dissipation is r.s.h. output stages) are rendered redundant!

At another level, innovations in data processing methods bring about further change, with some losses and some gains. The new data acquisition systems, Viewdata, Teletext and Antiope, are producing completely new marketing and manufacturing areas, with other developments such as flat-screen television on the horizon. Spiralling costs of petrol must eventually have an effect in making television games and data services that much more attractive to the harassed worker or manager, who may prefer to remain at home than venture expensively into the outside world for his entertainment or information-gathering.

Although most of these developments will mean more markets for microcircuits, linking processes will still require cables and connectors, and where conventional forms disappear, manufacturers will reorganise to produce optical fibres and optical fibre connectors—adaptation for efficiency. The humble traditional connector can still make headlines, however, as in France, where it is now a legal requirement for all exported television receivers to be fitted with a twenty-way connector for data acquisition services.

Looking to the short-term future for passives in relation to the market leaders, the figures certainly do not look depressing even after the influence of inflation. IIT, which has a 20 per cent share of the (all components) market, expects a growth rate of at least 4 per cent on passives in the coming year. Mullard (Philips group) are showing typically tight lips, but admit to selling "a million of each (capacitors and resistors) a day," and with a turnover on all components of £200m a year, the total pickings seem rich enough to keep them in business.

The fact remains that the great mass of passive components are a perennial necessity—they may well take on new forms and be put to new uses, but connectors, switches, circuit boards, enamelled copper wire, magnet pole pieces (think of your windscreen wiper motor) and a host of other hardware items—the nuts and bolts around the electronics—aren't about to fade away, just yet.

Ted Parratt

هكازمان الثورن

FOR THE COMPONENT PART OF QUALITY THINK THORN

Thorn has available components of quality, including the widest range of cathode ray tubes world-wide, that provide the quality part of your product. A diverse and comprehensive spectrum of components that makes it one of the strongest available with application in all branches of industry.

Connectors, switches, relays, lamps and fittings from Thorn Electrical Components. Display panels, filters and light modules from Thorn Panelgraphic, Relays, counters, timers and solenoids from the Keyswitch and Varley ranges. Cathode ray tubes, plasma panels and hybrid thick film circuits from Thorn Brimar.

Thick film and wire wound resistors and potentiometers from CGS Resistance, Servomotors, steppers and tachogenerators from Evershed and Vignoles.

Examples of all are on display on the Thorn stand at Electronics '79.

THORN Thorn Industrial Control Engineering, Dover, Kent CT17 9EN

GaAs Lasers

IIT - Europe's leading manufacturer of semiconductor lasers.

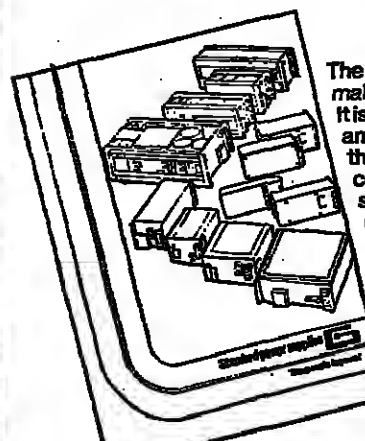
Our product range covers discrete semiconductor laser diode devices, arrays and sub-systems.

For detailed information please contact:

IIT Components Group, Microwave and Electro-Optic Division, Brixham Road, Paignton, Devon. Tel: 0803 550762 Telex 42951

Components IIT

Current issue



The Gresham Lion catalogue makes powerful reading. It is a must for designers and specifiers who want the detailed spec. on the country's leading range of standard power supplies, constant voltage transformers and much more.

This catalogue is freely available on request. Get in touch with us today for your copy.

Gresham Lion Limited, Gresham House, Twickenham Road, Farnham, Middlesex, Tel: 01-834 5571.

The people in power

Transducer market

CONTINUED FROM PREVIOUS PAGE

Obviously, if in the future information is to be turned into pulses of light and transmitted down a fibre optics cable the electronics at the other end to turn this light into electrical impulses will be in great demand.

Photosensitive electronic components have been known and used for many years. Very simply they use the fact that when natural light is shone on a transistor, or diode of a certain type, it switches it on. This makes it most suited where digital (on-off) information is concerned, because the signal it provides can be used with almost no other electronics except those needed to "clean up" the signal—that is, to sharpen up the pulses.

It is here also that transducers begin to merge into other more futuristic applications.

The more sophisticated a light-detecting transducer becomes, the less of a transducer it actually is—in fact, when it can be used to detect shadows or "edges" between light and dark areas, it begins to become what is, in effect, a simple eye.

The future of the light transducer is stunning in its possibilities. They are in a primitive form at the moment but it is interesting to observe the process of evolution that such devices have undergone. Like the most simple cells, the first transducers reacted only to strong and basic environmental changes such as light, heat and chemicals. Now, thanks to greater information processing power in the form of the micro-processor and more sophisticated sensory techniques, simple "eyes" have been developed. (This has to be qualified by saying that the most promising pattern-recognition techniques do not emulate eyes at all, but use holograms).

The fact that one form of transducer can measure a different parameter is illustrated by a device known as a shaft encoder. Basically this consists of a disc divided into segments and concentric circles. Each segment has a unique code painted on it in the form of transparent and opaque areas.

If light is then shone through this disc, photo-electric devices on the other side of the disc can detect the code and, therefore, the position of the discs. In effect, angular displacement is being measured, using a light sensitive device.

In recent years, one of the best candidates for the biggest expanding transducer market must be medical electronics. Figures are not available, but this is borne out by the fact that Hewlett Packard, one of the most important companies in the electronics market, have stopped manufacturing industrial transducers and now only produce those for use in medicine. It is a skilled field. Often the equipment is looking for minute changes of variables, therefore sensitivity and accuracy are vital.

Another factor that the transducer designer rarely has to consider is how the taking of measurements will affect the subject. In medical applications, incorrect design can destroy the cells that are being monitored.

Measurements of pressure (for example, arterial and venous blood pressures and spinal pressure, and respiratory flow are typical applications). Pressure is measured using a diaphragm technique, the latest innovation being a quartz diaphragm.

The respiratory flow systems measure air flow by differential pressure across resistance. They basically measure rate and gas content of the patient's breath.

The most advanced techniques are applied to medical applications because it is such a demanding field.

Fibre optics is also demanding—and perhaps commands more attention and finance at the moment because it is an industrial advance.

If the predictions are right that the fibre optics market will finally take off in the next year or two, then, without doubt, the larger, single use of electronic transducers will be at the fibre/receiver interface of the fibre optics link.

Philip Dwyer Electronic Times

STRATHCLYDE the right environment for electronics.

There is already a thriving electronics industry in Strathclyde. Many international companies have established large plants in the region as a base for their European operations. Firms like IBM, Honeywell, Digital, National Semiconductor and Motorola.

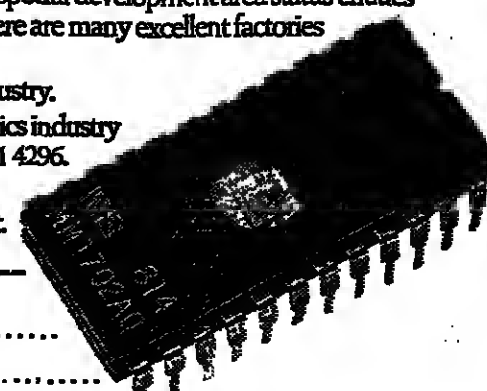
The attractions for these companies include good labour relations and high productivity records. The region has a clean atmosphere and chemically stable freshwater supplies ideally suited to the manufacture of silicon micro-processor chips. There is also an ample pool of high quality and adaptable labour throughout the region, and several institutions within the central belt of Scotland with international reputations for research and development work in micro-electronics engineering. There are two international airports linking Strathclyde with the rest of Europe and the USA. The region has excellent rail and motorway connections to the UK network.

Financial incentives are good too. Strathclyde's special development area status entitles industry to maximum UK Government assistance, and there are many excellent factories and sites readily available.

The environment is right for the electronics industry. We've prepared a special report on the electronics industry in Strathclyde. Get your copy now. Ring Glasgow (041) 221 4296.

STRATHCLYDE Scotland's biggest region for opportunity and development.

Name..... Position..... Company..... Address..... Tel.....



Strathclyde Regional Council

Industrial Development Department, 21 Bothwell St, Glasgow G2 6NJ. Tel: 041 221 4296

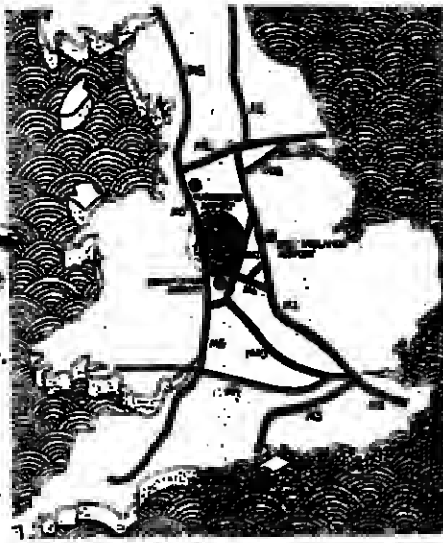
The silicon chip illustrated (type MM1702 AQ) is manufactured in the Strathclyde Region by National Semiconductor (UK) Ltd.

Staffordshire. A new centre for your business.

Staffordshire offers an unrivalled combination of advantages to companies looking for expansion potential.

Set in the heartland of the nation it is supremely accessible, with fast road and rail links to the rest of the country and major ports, and three major air terminals within one hour's drive.

Many companies in widely varied fields, some of international stature, have been operating successfully in Staffordshire for a great number of years, and more recent arrivals, too, are finding the county has a progressive environment.



Major population centres

07265

Stafford	52,724
Burslem	56,952
Stoke-on-Trent	49,922
Wolverhampton	41,202

New companies will have scope to forge links with the several higher education institutions in the region on research and development. Plus the opportunity to obtain easy access to the large computer installations nearby.

Get the facts on Staffordshire by contacting—



Staffordshire Development Association
P.O. Box 11, County Buildings, Market St, Stafford, ST16 2JH.
Telephone: Stafford (0785) 8121 Ext. 7370
Telex: 98285

With a large and dynamic labour force and a generally excellent record of labour relations Staffordshire has the answers to recruitment problems.

The quality of life in Staffordshire is enriched by the diversity of scenic character and the facilities for outdoor activities and cultural pursuits.

Big spin-off from the computer industry

POWER DEVICES

WITH THE current simultaneous enthusiasm and scepticism on both sides of industry when contemplating the potential of the microprocessor, it is not surprising that other areas of electronics, in particular power, do not enjoy the same publicity as the ubiquitous silicon chip.

Despite their poor Press record, power devices account for approximately 12 per cent of all semiconductor manufacturers and therefore benefit from a healthy research and development effort. It is interesting to note that in many applications where a microprocessor forms the brain of a system, this powerful device is helpless without the brawn of power devices.

A well-known example of this is the Fiat car factory which uses computer-controlled robots in a fully automated production

line. The robots are driven by electric motors within complex servo systems and these are, in turn, controlled by power semiconductor devices which provide fast, reliable and silent operation at a fraction of the cost of their electromechanical predecessors. The enormous growth in computer systems has therefore caused a growth in the semiconductor power control business.

For a.c. power control, the most common component is the thyristor (a generic term for all four-layer switching devices). This component brought about a revolution in domestic power control with the advent of phase control light dimmers and motor speed regulators in washing machines, for example.

In industrial power control systems, the silicon-controlled rectifier (s.c.r.) reigns supreme. This device only conducts current in one direction and, once triggered, can only be turned off by removing the current through the device. With alternating current, a s.c.r. turns off automatically at the zero crossing point; so, using a separate device for each half of the a.c. waveform, accurate control can be obtained with few components.

Unfortunately, not all of the parameters of a s.c.r. can be optimised at the same time. When designing a device for high current capability it is important to have a large conduction area; on the other hand, if fast switching is necessary, a more complex gate design must be used which effectively reduces the conduction area.

As high current and fast switching are not compatible, s.c.r.s are now designed for particular applications so that the important parameters can be optimised. Some large devices now in production use a 63mm silicon pellet and will switch 1500A, 3600V at 400Hz.

Capacity

When fast switching is essential, current capacity is sacrificed by using a distributed gate or interdigitated gate structure. Devices of this type can now handle 2000V and operate at 20kHz.

Another thyristor known as the triac acts as two s.c.r.s in inverse parallel to provide conduction in both directions. This device is generally reserved for a.c. control circuits which handle less than 2kW.

Because a single triac and about six other components can provide full wave control it is ideal for domestic use and, as already mentioned, domestic products such as light dimmers and electric drills already make use of this device. As the triac conducts current during both half cycles of the waveform, heat dissipation is a greater problem than with the s.c.r. For this reason two s.c.r.s are preferred in high current application.

Nevertheless, because of the simple drive circuit requirement for a triac this device is still very popular with designers. An interesting variation is a device called the quadrac which combines a triac and a trigger diode to simplify the drive requirements still further. Conventional thyristors rely on commutation to turn them off, and they are therefore not suitable for direct current applications. This fundamental characteristic has led to the development of a gate turn-off s.c.r. for DC control. This is also a four-layer device but unlike a conventional s.c.r., conduction can be stopped by application of a negative gate pulse.

RCA have introduced a range of devices suitable for automotive use which can switch tens of amps at several hundred volts.

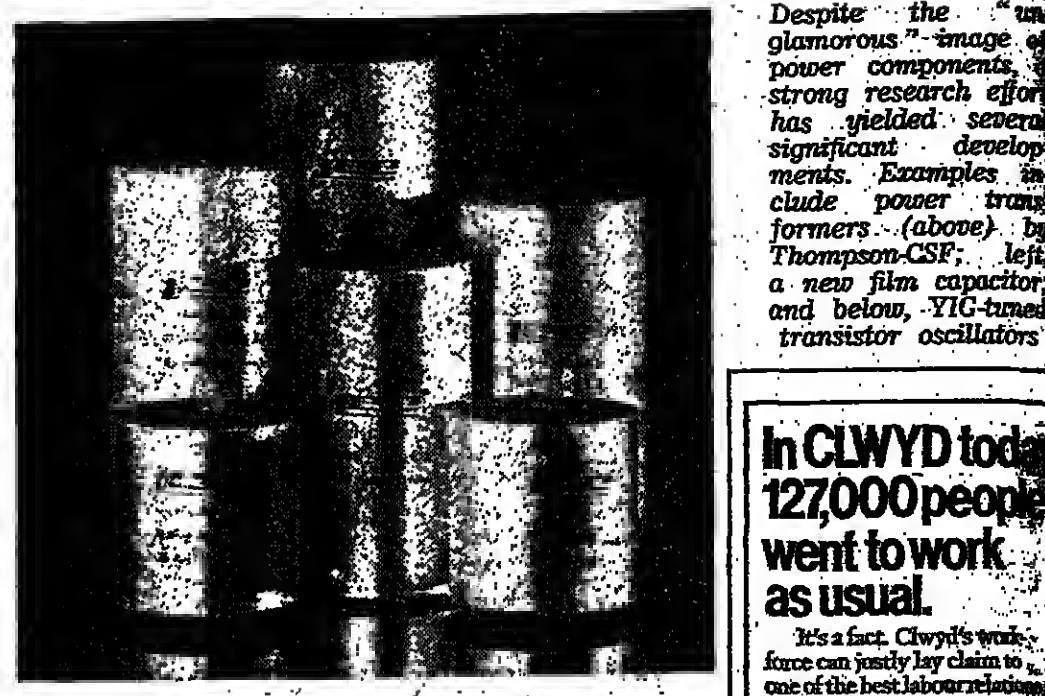
Although these specialised thyristors can be used for DC control, some manufacturers have felt that improving conventional power transistors is a better solution because they are linear devices that can be turned on and off by control of the base current.

Early power transistors were made using a simple process called single diffusion. This produces a rugged but low speed device with a maximum voltage rating of around 160V which restricts their use to areas such as audio amplification and linear power supplies.

Some recent devices, however, are constructed using a more advanced triple diffusion process. These transistors have a greatly improved voltage and current capability combined with high speed, although they are not as rugged as single-diffused types.

Westinghouse Brake and Signal Company are offering triple diffused transistors that will switch 120A at 550V and can directly control a single-phase mains supply. A 750V version is also under development for direct control of three-phase supplies.

Because bipolar transistors are substantially faster than thyristors they are highly suitable for use in switched-mode power supplies. As sales of these high efficiency supplies increase, so does the market for switching transistors and as a result several manufacturers



Hitachi are now producing m.o.s. power f.e.t.s which have a vertical current flow but no groove and these devices offer ratings up to 200 V at 8 A. However, due to a large chip size, their useful bandwidth is limited to around 1MHz, and this has so far restricted their use to audio power amplifiers.

Siliconix has also produced a range of V m.o.s. devices which have a vertical current flow and a groove structure. This range generally offers lower power capability but has a much higher (upper limit) frequency response. A typical device can switch 1A in four nanoseconds and is therefore very suitable for r.f. amplification.

Although power f.e.t.s cannot compete with bipolar transistors at high power levels at present, they do offer several advantages—high input impedance, greater linearity, fast switching, and a negative temperature coefficient—in low to medium-power applications.

As with most power devices, improvements are continually being made in voltage/current ratings and speed, but cost appears to be the main drawback at the moment. No doubt power f.e.t. technology will follow the normal cost and learning curves and these devices will eventually replace bipolar transistors in many applications.

Mike Sagin

Despite the "ugly glamorous" image of power components, strong research effort has yielded several significant developments. Examples include power transformers (above) by Thompson-CSF; left, a new film capacitor; and below, YIG-tuned transistor oscillators.

In CLWYD today 127,000 people went to work as usual.

It's a fact. Clwyd's workforce can justify its claim to be one of the best labour relations records in Britain today. With this multi-skilled workforce, proximity to major markets and national/international communications networks, this progressive Welsh county, with full Development Area Status, dominates the north-western development scene.

Talk to us about the lowest cost sites and factories plus extensive financial aid available to incoming industries - we'll make you a deal you can't refuse. Contact Wayne S. Morgan, County Industrial Officer, Clwyd County Council, Shire Hall, Mold (Tel. Mold 2121) or your free Clwyd brochure.

QUARTZ CRYSTALS
FOR MICRO & INDUSTRIAL APPLICATIONS

ULTRA MINIATURE 8-PIN DIP CRYSTAL OSCILLATOR

0480 7113
TELEX 40250 INFACL G
IN PARIS 260 33 13
IN LONDON 0421 34 30
TELEX 02 19207

ELECTRONICS 79

Be a jump ahead of the field in microprocessors



Comway provide the complete capability

Microprocessors are hurdles your company can take in its stride. But you have to know the kind of hurdles to expect - and where they are. At Comway Microsystems you'll find all the technical guidance you need and a source of supply able to jump to it with the consummate ease that stems from experience.

With the broad range of products from Fairchild and Intel, arguably the most significant names in microprocessor development technology today, and a uniquely experienced design and production facility, Comway Microsystems is more than well equipped to put you in the lead and keep you there.

Why not ring us at Comway Microsystems today and have a look at our track record?

Update yourselves with Comway Microsystems

Comway Microsystems Limited

Market Street, Bracknell, Berkshire, RG12 1JU
Telephone: Bracknell (0344) 56333. Telex 847201

LET YOUR BUSINESS GROW IN INDUSTRIAL CUMBRIA

Come to Cumbria where there is room for your business to grow. We can offer the best in new ready built factories at low rentals (with a possible 5-year free period). There are maximum Regional Development Grants from the Government and you will be entitled to a 100 per cent first year tax relief on new machinery and plant. The whole of Cumbria is of course designated as a Development Area or a Special Development Area. Some of the best leading British and International companies have seen the advantage of coming to Cumbria and are already well established here. They include such household names as Courtaulds, K Shoes, Leyland National, Metal Box, Glaxo, Nestlé, Firelli, Rowntree Mackintosh and Bowater Scott just to name a few.

There are well laid out industrial estates in many parts of the county with factories from 5,000 to 25,000 sq. feet ready and waiting for you to move into.

People in Cumbria believe in getting on with the job and that's why we have one of the lowest strike records in Britain. We have people ready and willing to take on new skills if need be.

Remember, if you come to Cumbria you will be living and working only minutes away from the Lake District National Park, among the finest scenery in Britain. Just another plus for Cumbria.

For further details contact:
Bob Childes,
Industrial Promotion Officer,
Cumbria County Council,
84 Warwick Road,
Carlisle, Cumbria CA1 1DZ.

Telephone: Carlisle (0228) 23456



هكنا من العمل

Welwyn Colverna
ELECTRIC LIMITED LIMITED

Approvals from British Standards (BS9000), Post Office, MoD and European (CECC) bodies confirm our quality. The largest UK resistor manufacturer, and leaders in hybrid circuit and flexible/rigid printed circuit technologies. Fully automated printed circuit assembly plant.

Welwyn Electric Limited
Bedington, Northumberland NE22 7AA, England
Telephone: Bedington (0267) 822781
Telex: 52514. Telegram: Bedint Bedint

Colvern Limited
Spring Gardens, Romford, Essex, RM7 6LP, England
Telephone: Romford (0206) 82222
Telex: 22884. Telegram: Colvern Romford.

Subsidiary companies of Royal Worcester Limited.

The Incredible Lone Ranger

IN THE closing weeks of 1968, Dr. Henry Kissinger was plucked from the comparative obscurity of an academic career at Harvard to become President Richard Nixon's special adviser on national security at the White House. Within a couple of years he had taken complete control of the formulation and implementation of nine-tenths of America's foreign policy, and by the end of Mr. Nixon's first term he was well on the way to becoming, if he had not already become, the most internationally celebrated American. Ten months after Nixon's re-election, Dr. Kissinger further consolidated his position by moving to the State Department, where he stayed until the inauguration of President Carter.

The first volume of his memoirs, *The White House Years*, appears today; and if Dr. Kissinger is having rather more difficulty in drafting the second volume, as James Reston has reported, we should not be surprised. For while the first Nixon term was marked by three major turning points in American foreign policy—the establishment of relations with China, the signature of the first Strategic Arms Limitation Treaty with the Soviet Union, and the virtual conclusion of a "peace" agreement in Vietnam—the second was engulfed in the Watergate vortex. Already in this first volume, Dr. Kissinger has difficulty in dealing with the Watergate-style activities that flourished so naturally in the Nixon White House. In the case of the wire-taps which were placed, with his knowledge, on members of his own staff, he represents himself as the glib and innocent outsider.

Apart from the income, Dr. Kissinger's purpose in writing his book seems to be to restore a reputation which has lost most of its lustre with the

passing years. Yet the irony is that a meteoric career owed everything to those character defects in Mr. Nixon which led inexorably to the final Watergate denouement. He would have got nowhere, of course, if Mr. Nixon had not also been a man with a strong, laudable, and in many ways well-directed, ambition to become a successful international statesman.

But Dr. Kissinger would also have got nowhere if President Nixon had not been neurotically suspicious and secretive, surrounding himself with cronies, unable to deal publicly and directly with his senior cabinet members, always on the search for devious ways of getting his policies implemented. To judge from what he says in this volume, Dr. Kissinger played no direct part in the long, slow Nixon retreat before the Watergate investigations.

Allende

On other issues, he tells less than the whole story, such as the covert subversion against President Allende in Chile, or remains silent, such as the clandestine operations aimed at the Communist Party in Italy. But it is undeniable that Dr. Kissinger took maximum advantage of Nixon's secrecy and suspiciousness in order to build up his own role in the foreign policy field.

In this he was brilliantly successful. I am not being ironic if I say that Kissinger's most impressive single achievement was to have so thoroughly and so quickly mastered the art of bureaucratic intrigue that he was able to set up a parallel and secret foreign policy apparatus, and in the process to exclude neutral and hostile the official foreign policy bureaucracy. On several occasions in the book, he expresses regret for having gone so far in this direction; with hindsight he

wishes he had treated Mr. William Rogers at the State Department as an ally rather than as a rival. Yet as a text book account of how to outwit the entrenched bureaucracies, it makes fascinating and impressive reading.

By the same token, he also sheds a fascinating light on the problems of working with a man as unstable and unpredictable as Mr. Nixon. The two men did not have an easy social relationship, but if Mr. Nixon does not appear any more likeable than he had previously seemed, he certainly comes across as a sadder, perhaps even a more tragic, figure than I would have expected.

I assume that Kissinger's main purpose in writing his memoirs is to vindicate his reputation as a foreign policy analyst and as a foreign policy maker. Yet the paradox is that it is in this respect—what he did with his power as National Security Adviser, as opposed to the way he gradually built his power base—that I find his record least impressive.

In the nature of things, a tiny, secret foreign policy group is well adapted to do certain types of things, but not at all adapted to do others which, in the parlance of foreign policy require the talents of a country like America, may be just as important. For one thing, it excludes by definition the expertise of most of the people who have most knowledge and experience of particular countries or issues; for another, it can only handle a few issues at any one time, and therefore it tends to concentrate on the spectacular abovesides.

The mechanics

Like the Lone Ranger, with whom he compares himself, Dr. Kissinger was perfectly equipped to handle a simple if delicate errand like his secret trip to Peking, and clearly he revelled in all the mechanics

In retrospect, I find it difficult to see why Mr. Nixon insisted on such elaborate deceptions; an American approach could only have been welcome in Peking, and Pakistan was only one of a number of countries with contracts with China, if indeed indirectness was so essential. Still, it was a good and important move, and it was handled with great skill, if one excludes Dr. Kissinger's leaving his shirts behind in Islamabad.

Back-channel foreign policy making can also be quite effective

drawbacks of the first SALT agreement signed by President Nixon in Moscow in 1972, but a number of points are obvious. Dr. Kissinger may or may not have sensible thoughts on nuclear strategy, but he is not a weapons expert, and he inevitably created lasting confusion in going behind the backs of his missile specialists. Secondly, while it may be intoxicating to trade numbers of missiles in secret deals with the Soviet Ambassador in Washington, while the bureau-

crats are floundering in Helsinki, that is surely not what a National Security Adviser is for.

According to his own account, Dr. Kissinger repeatedly stressed the need for "linkage" between the strategic weapons issue, where the Americans were at a disadvantage, and other issues, in which the Soviet Union might be forced to make concessions. That linkage worked, merely by virtue of simultaneity, in the case of the negotiations over Berlin in the current phase of the West German Ostpolitik. But it did not work in the case of MBFR, the European Security Conference, the Middle East or Vietnam, let alone in the case of unpredictable Soviet intervention abroad (Angola, for example), simply because the Americans had not worked out how to make it work.

Sensibly enough, Dr. Kissinger recognises that there is, in the medium term, a diffuse form of linkage; if the Russians push their luck too far too long,

they will provoke distrust in the U.S. and precipitate an increase of American defence spending. But to judge from his book, he still does not seem to see that precise and immediate linkage can only be established between two precise and immediate issues, both of which are, or can be made, the subjects of a negotiating agenda. The U.S. could have gained that kind of linkage out of the European Security Conference, for example, if it had tumbled to the leverage it could get out of the human rights issue, instead of being mesmerised by what the Russians thought they would gain from the conference.

But there was no way of linking SALT with a third-party problem like the Middle East or Vietnam unless Dr. Kissinger had used his back-channel talks with Mr. Dobrynin exclusively for some broader negotiations on detente.

It may be argued that this kind of broad detente was unavailable, either because the Russians were not interested in it (almost certainly true), or because of the frissons of apprehension which it would have caused in Europe—East and West—and in China (certainly true). At the time, of course, the SALT treaty seemed to the American people to mean more than was reasonable, and induced a temporary state of euphoria. That was only to be expected, and Dr. Kissinger saw the danger.

What is so extraordinary is that he had nothing interesting to say then, and apparently nothing to say now, about the relationship between the particular and the general in negotiations between Washington and Moscow. He can mouth banal generalities, but really it is as if he had not thought about the problem, or had always been too busy adjusting lists of ICBMs or SLBMs, or catching planes. That he was busy is not

in doubt, of course; a man gets to be very busy if he rides into town and undertakes to outsmart an entire bureaucracy. But the single subject which kept him busiest was, inevitably, the Vietnam war, and this is the most baffling theme in the whole tale.

When Mr. Nixon came to power, he made it absolutely clear that his aim was to end the war, and within a matter of months he started announcing a programme of American troop withdrawal. At the same time, there was, in Paris, a standing and official negotiation between the U.S. and the North Vietnamese, which remained permanently deadlocked. Inevitably Dr. Kissinger, inspired by his Chinese and Russian innovations, launched a secret and parallel negotiation with the North Vietnamese, also in Paris, and also completely sterile until mid-1972. Through-out this process, he realised, as he makes abundantly clear, that the North Vietnamese were only interested in total victory. This is not surprising; an American President who makes it clear that he is going to get out of Vietnam, both because he wants to, and increasingly because he is being forced to by public opinion, is in a peculiarly weak negotiating position.

Peace prize

In the end, of course, Dr. Kissinger got a "peace" agreement—and the Nobel Peace Prize. It is clear from his book that he knew the agreement was not worth the paper it was written on. Yet he continues to protest that it was a good agreement, and that the U.S. could have intervened to enforce compliance with the ceasefire, if only it had not been for interference by Congress. We had no way, he says, of understanding the hatred between the North and the South Vietnamese. He claims to believe that the agreement preserved

America's credibility, and argues that even de Gaulle took four years to get out of Algeria; if he knows that Algeria was not a foreign country when de Gaulle came to power, nor even a colony, but virtually a part of France, he is not prepared to reveal as much to his readers.

A man who can, six years later, advance arguments of this kind does nothing for his own credibility, let alone that of the U.S. I do not know if Dr. Kissinger has ever read any Tacitus, but one of his plier sentences comes to mind. It is spoken by a British guerrilla chief, about the invading Roman legions. They make a desert, and they call it peace."

Alarming

Like the Lone Ranger, Henry Kissinger has become an evocative but short-lived myth. It is disarming to learn that this distinguished professor of international relations had in 1969 never heard of UN Resolution 242, despite the fact that he regarded the Middle East as a "vortex" of world politics. It is disturbing to read that the subversion against Allende was only designed to bring about an improvement in the Chilean electoral process. It is positively alarming to discover that it was not until some time after the Nixon shock of August, 1971 (the suspension of gold convertibility and the 10 per cent import surcharge), that he realised that key economic decisions are political, not technical.

But in the end one must take refuge in the thought that the importance and power of Henry Kissinger grew out of the disorderly personality of Richard Nixon. With any luck the American people will not elect another Nixon as their President.

The White House Years by Henry A. Kissinger, 1,521 pp., £14.95; Michael Joseph/Weidenfeld and Nicolson.

Today's Events

UK: President Valery Giscard d'Estaing of France starts today meeting with Mrs. Margaret Thatcher in London, before EEC summit meeting in Dublin.

Mr. David Howell, Energy Secretary, meets M. Andre Girard, French Energy Minister, in London.

Mr. Norman Fowler, Transport Minister, sees the TUC Transport Committee.

Sir Peter Gadsden, Lord Mayor of London, opens national exhibition of children's art at Goldhall Art Gallery; dines with the Gold and Silver

Wyre Drawers' Company, Manchester House.

Mr. Mooki Molapo, Lesotho Minister for Commerce and Industry, leads trade mission to UK; visits Birmingham Chamber of Commerce.

General Medical Council disciplinary committee meets, London.

British Oxygen Company's gases division manual workers ban overtime in pay dispute. Prince Charles attends Institution of Mechanical Engineers

annual dinner, Dorchester Hotel, London.

Post-impersonalism and Europe, winter exhibition of 400 paintings at Royal Academy of Arts, Piccadilly (until March 18).

National Graphic Design and Drafting Exhibition opens, London.

Overseas: EEC Finance Ministers meet in Brussels.

Mr. Andrei Gromyko opens first visit to Spain by a Soviet Foreign Minister.

President Anwar Sadat of Egypt celebrates second anniversary of his trip to Israel with ceremony on Mount Sinai.

PARLIAMENTARY BUSINESS

House of Commons: Civil Aviation Bill, second reading.

COMPANY RESULTS

Final dividends: Cambrian and General Securities, Stocklake Holdings, Interim dividends: Elswick-Hopper, Ferranti, MK Electric Holdings, Ocean Wilsons (Holdings), Sheffield Refreshment Houses.

COMPANY MEETINGS

See Financial Diary on Page 24.

Letters to the Editor

Britain and the EEC

From Professor T. Wilson and Mr. M. MacLennan

Sir,—As the debate about EEC contributions continues, the need for some further clarification of objectives becomes increasingly obvious. That may appear to be a somewhat discouraging conclusion for it may suggest long sessions devoted to an unending debate about matters of principle. We wish to suggest that there is, in fact, a fairly straightforward formula which, if accepted, would help to resolve the conflict between different claims.

There is the claim that the Community was established in order to achieve a number of specific objectives and that the pursuit of these objectives must not be followed by a narrow-minded insistence on *juste retour*. That is to say, each country should not expect to get back in cash receipts the equivalent of what it has contributed. If pushed far enough this contention amounts to saying that the distribution of gains and losses between nations should be ignored.

Such a contention appears to be in conflict, however, with the preamble to the Treaty of Rome which states that those subscribing to it are: "Anxious to strengthen the unity of their economies and to ensure their harmonious development by reducing the differences existing between the various regions and the backwardness of the less favoured regions."

It would be unrealistic to suppose that the Community would aim at the equalisation of living standards between member states or even desirable that it should do so. But some movement in this direction is implied in the passage from the preamble to the Treaty quoted above. What is certainly clear is that a movement towards greater differences, if caused by the Community's own policies, would be contrary to the Treaty.

Apart from these quite explicit and universally accepted statements of principle, it can be argued that, on pragmatic grounds, there should be no net losers if the Community is to be held together.

At this point we encounter a formidable difficulty. How are the total net gains and losses that follow from membership to be assessed? These gains and losses fall into two categories: (1) the cash payments and cash receipts and (2) the more general net benefits from greater freedom for the movement of goods, services and capital, from joint enterprises in a number of fields (European control of pollution, etc.) and from closer co-operation over a wider range of activities. The gains and losses under (1) can be broadly assessed, even if there is some scope for disagreement. Those under (2) cannot be so easily quantified and involve matters of judgment on which opinions are bound to differ.

Defenders of the present budgetary arrangements might argue that even if a country suffers under (1), it gains under (2) and that, furthermore, the latter more than offsets the former. This may indeed be so even if the wider political

Letters to the Editor

Teaching the basic skills

From Mr. O. Stutchbury

Sir,—In your first leader of November 15 you persist in a view about education which you (and Mr. Rogaly) have consistently voiced and which is so fundamentally wrong-headed and misconceived that you must be asked to change your ways.

You conclude: "In the end, therefore, the complexity of the vested interests which divide the various partners of the education system, may prevent the agreement which the government hopes to achieve. If so, however, the national interest plainly requires that the curricular framework should be imposed by legislation." So much for the "less government" you propose (quite rightly) on nearly every other issue on which you take a stand.

Has it occurred to you that agreement about what children should be taught may be a very bad thing? There seems to have been remarkable agree-

ment in the 19th Century; children should be taught to read the Bible, learn Latin and Greek, some mathematics but no science or living foreign language. Were our forebears right? Are you sure that mathematics will be an appropriate subject to teach children in the 21st Century? Are you quite certain that learning to read will be as important in ten to twenty years as it is today? I think you would be wise to budge your bets and have the maximum diversity of educational curriculum.

People have been arguing about what children should be taught at least since Plato wrote the Republic. It is the ultimate moral question: how ought we to live? We should be allowed to differ from one another. Are teachers necessarily wrong if they resent outsiders teaching them their job?

Thank God we are all different and don't agree. One of the more disgusting manifestations of the growth of the Welfare Industry is the way in which politicians and others waste everyone's time and money (have you thought what it would cost us all to monitor and control the country's "curricular framework"?)—talking and legislating to try to make us all the same.

Oliver Stutchbury, Dartington and Co. Bridge Chambers, Bornstaple, North Devon.

Private housing demand

From the Economic Adviser, The House-Builders Federation

Sir,—Your editorial "Paying for our housing" (November 12) reaches a number of mostly sensible conclusions more by luck than good judgment. For the analysis which preceded them is not typically long on unsubstantiated, popular generalisations and short on logic and facts to back them up.

You state, for example, that the post-war rise in home-ownership has been achieved at least in part at the cost of industrial investment and the value of equities. This is a familiar generalisation which has been firmly debunked by the Wilson Committee's recent examinations of the workings of the financial institutions, in particular by the evidence submitted by the Building Societies Association. Wilson has found out that prospective productivity and profitability (or the lack thereof) lies at the heart of this country's investment problems rather than availability of finance, while the BSA evidence showed not only the small declining proportion of building societies' funds actually finding its way into the use of real resources (i.e., new housing) but also the exceptionally low percentage of gross domestic product invested in new housing by UK relative to other advanced economies. No doubt, the attractiveness of building society accounts has played a small part in the flight of the small saver from equities, but it requires an exaggerated leap of the imagination to translate this into a significant influence upon industrial investment.

This very leap of imagination is, however, the cornerstone of your editorial's argument which then goes on to criticise as "alarming" the Government's present attempts to secure an adequate and stable flow of

Letters to the Editor

Private housing demand

funds on the grounds that it will crowd out industrial investment and direct more institutional investment into mortgages. The problem, you say, is one of excess demand as too many people are trying to buy too many houses at prices the country cannot afford to finance." If this statement were true, then private housebuilders should no doubt object strongly to the three policy conclusions which you say, flow from this view of the housing market. How surprising, it would therefore seem, that most of our housebuilder members agree wholeheartedly with your first conclusion that "the Government must abandon the practice of bullying building societies into deferring changes in mortgage rates until these are politically expedient"; that they have some sympathy with your second conclusion that the mortgage market should be more open and competitive; and that, subject to more thorough analysis than your editorial allows, they are not all opposed to considering favourably your third suggestion that inflation might be allowed to eat away at the £25,000 limit on mortgage tax relief.

Their favourable response is not, of course, surprising since your statement that housing demand exceeds what the nation can afford misses the point, just like the claim that housing finance diverts funds away from industrial investment. The real small part in the flight of the small saver from equities, but it requires an exaggerated leap of the imagination to translate this into a significant influence upon industrial investment.

This very leap of imagination is, however, the cornerstone of your editorial's argument which then goes on to criticise as "alarming" the Government's present attempts to secure an adequate and stable flow of

Letters to the Editor

Private housing demand

private housing which is backed up by the capacity and willingness of the individual to work, earn and borrow to realise that ambition. Hence the mortgage rate entry of higher-cost financial institutions into the mortgage market as you recommended, will not discourage that demand but rather will encourage a greater supply of private new housing through boosting housebuilders' confidence in the stable supply of mortgage funds. The slow inflation-increased pairing of mortgage tax relief (your third suggestion) would admittedly be entering new territory but would, on balance, be at the worst neutral in its effect upon private housing demand—and probably beneficial in the long term—if accompanied by an irreversible campaign to phase out public housing subsidies at the same proportionate annual rate. It is mainly the lack of hard evidence that such a party of treatment might be forthcoming that prevents many housebuilders from espousing your third suggestion as enthusiastically as the first.

Your conclusions are thus not far wide of the mark but, rather like the mathematics pupil who gets the answer right but, rather like the mathematics pupil who gets the answer right but, rather than if it had been the other way round. The nation is quite capable of affording the housing to which people aspire, without diverting funds away from industrial investment, so long as free market forces are genuinely allowed to allocate housing resources to what the purchaser wants and the balance of choice does not continue to be distorted by massive and disproportionate public sector subsidies.

J. R. Stevenson, The House-Builders Federation, 82, New Cornedish Street, W1.

Today's Events

UK: President Valery Giscard d'Estaing of France starts today meeting with Mrs. Margaret Thatcher in London, before EEC summit meeting in Dublin.

Mr. David Howell, Energy Secretary, meets M. Andre Girard, French Energy Minister, in London.

Mr. Norman Fowler, Transport Minister, sees the TUC Transport Committee.

Sir Peter Gadsden, Lord Mayor of London, opens national exhibition of children's art at Goldhall Art Gallery; dines with the Gold and Silver

Wyre Drawers' Company, Manchester House.

Mr. Mooki Molapo, Lesotho Minister for Commerce and Industry, leads trade mission to UK; visits Birmingham Chamber of Commerce.

General Medical Council disciplinary committee meets, London.

British Oxygen Company's gases division manual workers ban overtime in pay dispute. Prince Charles attends Institution of Mechanical Engineers

annual dinner, Dorchester Hotel, London.

Post-impersonalism and Europe, winter exhibition of 400 paintings at Royal Academy of Arts, Piccadilly (until March 18).

National Graphic Design and Drafting Exhibition opens, London.

Overseas: EEC Finance Ministers meet in Brussels.

Mr. Andrei Gromyko opens first visit to Spain by a Soviet Foreign Minister.

THE SPECIAL DEVELOPMENT AREA.

On 13 November the Government awarded Special Development Area status to the whole of the Deeside area. This, together with the recent upgrading of the Wrexham area, means that 800 sq km within the County of Clwyd now has SPECIAL Development Area status offering TOP PRIORITY INCENTIVES to companies investing here.

The lovely coastal district of Rhyl has Development Area Status, whilst Colwyn and the rural Glynedd districts are Intermediate Areas.

There are over 70 estates and sites to choose from and dozens of new projects have got away to a flying start in the last two years—check the facts for yourself and see the contribution Clwyd's terrific labour force is making to the growth of these new companies.

FACT—Our large multi-skilled workforce has one of the best industrial relations records in the country. That means higher output and fewer strikes.

FACT—With Full and Special Development Area status, when you move your operations to Clwyd you'll receive generous assistance in the form of attractive financial incentives and a wide range of high quality, low rental sites. The County Council will also offer any advice and assistance that may help you.

FACT—More than 10 million people live within 2 hours in Clwyd we are central to all the major industrial conurbations.

FACT—Although Clwyd is rapidly becoming a major industrial centre, the beautiful countryside which surrounds it remains unspoilt. The County becomes even more attractive when you consider the excellent access it has to the major national and international ports by road, rail, air and sea.

Why not find out the facts for yourself by sending for your free colour brochure to Warren S. Morgan, County Industrial Officer, Clwyd County Council, Shyre Hall, Mold, Clwyd. Tel. Mold (0352) 2121.

Clwyd

Exactly where you want us.

UK COMPANY NEWS

Charterhouse holders get Spring Grove stake

BY TERRY GARRETT

AN OFFER for sale by tender to Charterhouse Group shareholders is the highly unusual format for the forthcoming flotation of Charterhouse's subsidiary, Spring Grove Services.

BOARD MEETINGS

The following companies have notified dates of Board meetings to the Stock Exchange. Such meetings are usually held for the purpose of considering dividends. Official indications are not available as to whether dividends are in question or final and the sub-divisions shown below are based mainly on last year's timetable.

Table with columns for company names and meeting dates. Includes: Intarins-Elwick-Hopper, Bristol Evening Post, Capital and Counties Property, etc.

is the rental of workwear and towels, which account for over 80 per cent of its £20m turnover. Pre-tax profits of Spring Grove amounted to £3.2m in the financial year ended last September.

Walker & Staff lower at midway

Pre-tax profits £7,000 lower at £69,000 on turnover of £1.56m against £1.26m are reported by Walker and Staff Holdings for the six months to September 30, 1979.

New chairman for Belhaven

Mr. Ronald Aitken, a partner of city accountants Binder Hamlyn, has taken over as chairman of the troubled Belhaven Brewery group. He is the fourth chairman this year and succeeds Mr. Peter Rowland, who remains on the board.

BIDS & DEALS Wadham Stringer's trading conditions deteriorate

The minority interest in the Forsanet Group had now been acquired and the freehold trading stock, had been sold. This eliminated the borrowings in Forsanet Property.

Wadham Stringer, the vehicle distributor, says trading conditions have become increasingly difficult since publication of the interim report on September 27. The group attributed the difficulties to increased economic uncertainties, tight monetary policy and the changes in indirect taxation.

of ECC held on November 15, 1979. Accordingly, Carclo's offer for the ordinary shares of ECC not already owned has become unconditional in all respects.

ALUISISE AGREES TO BUY EDENLITE

Aluisise (UK), a subsidiary of Aluisise, a major international aluminium producer, has agreed to buy from the receiver the business and some of the assets of Edenlite, a Swinton based manufacturer of aluminium greenhouses.

part of the Chamberlain Plint Group of Companies. Saw Mill is an industrial fabric weaving business at Gars Wood, Lancashire. About 55,000 of the payment relate to stocks awaiting customer orders.

CONTROL RAISES STAKE IN INGALL

Control Securities has acquired an investment of 275,000 ordinary shares to Ingall Industries from N.V. Slavenburg's Bank, Rotterdam. With 209,500 shares already held, Control has a 9.05 per cent interest in the equity of the engineering and funeral rearing group.

NUNNERY EXTENDS MOOLOYA OFFER

Nunnery Holdings, a private company owned and controlled by Mr. J. A. Phillips, a director of Mooloya Investments, is extending by one month its offer of the shares it does not already own in Mooloya. The offer now closes on December 27.

Gomme chief forecasts improvement

Improved profits are forecast for the current year by Mr. H. N. Sporborg, the chairman of Gomme Holdings, given reasonably stable economic and industrial conditions in the country generally.

East Anglian Securities sees increase

Mr. F. G. Rollason, chairman of East Anglian Securities Holdings, told the annual meeting, that since the balance-sheet date further progress was being made by all divisions and he expected profit for the year to show a substantial increase on last year's figures.

Lloyd's under no threat from computer losses

SUGGESTIONS that the stability and security of Lloyd's were being threatened by the computer leasing losses being incurred were strongly refuted by Mr. Ian Findlay, the chairman.

FT Share Service

The following securities have been added to the Share Information service appearing in the Financial Times: Chambers and Fargus (Section: Foods); Standard Telephones and Cables (Electricals).

WHARF MILL

The offer on behalf of Mr. S. E. Boler for the outstanding shares in Wharf Mill Furnishers has now closed. No shares have been acquired by Mr. Boler under the offer, nor were any acquired or agreed to be acquired during the offer period.

TAYLOR HARTLEY

Bodycote International's subsidiary Taylor and Hartley Furnishers has continued its expansion programme with the acquisition, for some £137,000, of Saw Mill, which is planning to acquire the group for £1.7m.

WESTGRAVE HASTAIRE

Current trading prospects of Westair-Hargreave, the manufacturer of industrial air control and dehumidifying equipment, are likely to lead to audited pre-tax profits for the 11 months ending November 30, 1979, of not less than £458,000. The details are revealed in the offer document sent to shareholders by Neil and Spencer Holdings, which is planning to acquire the group for £1.7m.

M. J. H. Nightingale & Co. Limited

Table with columns: 1000's capital, Company, Last price, Change, Dividend, Yield, P/E. Includes: Alkermid, Armitage and Rhodes, Bardon Hill, etc.

F. H. LLOYD HOLDINGS LIMITED

Table with columns: Unaudited Results for 26 weeks to, Audited Results for 52 weeks to. Includes: External Sales, Profit before Taxation, Earnings per 25p share, Dividend per share Interim.

GROUP LOTUS CAR COMPANIES LIMITED

HALF-YEAR RESULTS

Table with columns: First Half 1979, First Half 1978. Includes: Sales, Trading Profit before tax and extraordinary item, Trading Profit after tax and before extraordinary item, Extraordinary item, Special costs of U.S. market £210,000 after tax, Group profit after tax, Earnings per share.

Mr. A. C. B. Chapman, CBE, BSc(Eng), FRSA, Chairman, said: "Our increase of 58% of trading sales reflects the increased sales volume of Lotus products supplemented for this period by our engineering activities. Trading profit has more than doubled. The extraordinary item represents special costs relating to the US market in connection with the termination of our four independent distributors as from the end of last year. We recently announced that distribution in the USA would in future be undertaken by Rolls-Royce Motors Inc. these arrangements only being possible following our intervention in the market during the last nine months. I believe we have demonstrated considerable improvement in the year to date."

FINANCE FOR INDUSTRY TERM DEPOSITS

Table with columns: Deposits of £1,000-500,000 accepted for fixed terms of 3-11 years. Interest paid gross, half-yearly. Rates for deposits received not later than 22.11.79.

SELECTED MARKET TRUST LIMITED

(Incorporated under the Companies (Jersey) Laws, 1861 to 1968)

The authorised share capital of £100,100 is divided into 100 Founders' Shares of £1 each, all of which are fully paid, and 10,000,000 Unclassified Shares of 1p each which are available for issue either as Participating Redeemable Preference Shares ("Participating Shares") or as Non-Participating Redeemable Second Preference Shares.

S. G. WARBURG & CO. LTD.

on behalf of the Company

OFFER FOR SUBSCRIPTION

Participating Shares at £10 per share

payable in full on application

The Company was incorporated in Jersey on 16th October, 1979, to provide a means of investing in a managed portfolio of international securities. The Fund has similar open-ended characteristics to a unit trust so that it can issue and redeem its Participating Shares at prices based on its net asset value.

A Prospectus (on the terms of which alone applications will be considered) was published in the Financial Times and the Daily Telegraph on Saturday, 17th November, 1979 and is being published in The Times on Monday, 19th November, 1979. Copies may be obtained from:

S. G. Warburg & Co. Ltd., 30 Gresham Street, London EC2P 2EB.

S. G. Warburg & Co. (Jersey) Ltd., 7 Library Place, St. Helier, Jersey, Channel Islands.

Barclays Bank Limited, New Issues Department, 2 London Wall Buildings, London EC2P 2BU.

James Capel & Co., Winchester House, 100 Old Broad Street, London EC2N 1BQ.

Barclays Bank Limited, P.O. Box 8, 13 Library Place, St. Helier, Jersey, Channel Islands.

CARCLO ENGINEERING GROUP LIMITED (Registered in England No. 196249) Issue of up to 2,368,095 shares of £1 each credited as fully paid to be classified as 10p per cent. Cumulative Redeemable Preference Shares 1999 and/or 10 per cent. Convertible Redeemable Preference shares 1999 relating to the acquisition of The English Card Clothing Co. Limited.

National Westminster Bank NatWest announces that with effect from Monday, 19th November, 1979 its Base Rate is increased from 15½% to 17% per annum. The basic Deposit and Savings Account rates will be increased from 13½% to 15% per annum.

GROUP LOTUS CAR COMPANIES LIMITED HALF-YEAR RESULTS The unaudited financial results of the Company for the 26 weeks ended 30th June 1979 were announced on 16th November.

F. H. LLOYD HOLDINGS LIMITED INTERIM REPORT Unaudited Results for 26 weeks to, Audited Results for 52 weeks to. Includes: External Sales, Profit before Taxation, Earnings per 25p share, Dividend per share Interim.

INTERNATIONAL CAPITAL MARKETS

By FRANCIS GHILES

DM issues attract attention

SHARP fall in sterling determined bond prices following the record rise in the UK minimum lending rate and a strong surge in demand for Deutsche-Mark denominated paper...

7 1/2 per cent DMEDI bond to 1984 by five points to 7 1/2, where it yields 11.2 per cent. The 7 1/2 per cent DMEDI to 1985 by 2 points to 7 3/4, where it yields 10.6 per cent...

On the new issue front buying activity was stepped up after it became known that Commerzbank was bringing Gasunie, the private company which holds the monopoly for buying and selling natural gas in Holland, to the market...

The tone changed on Thursday following the completion of the Federal Governments funding programme through the successful issue of DM 4bn worth of Schuldscheine notes which offered investors yields ranging from 9 to 8 1/2 per cent...

Belgium's State telephone company RTT went ahead with a DM 400m Schuldscheine note carrying a maturity of 10 years and a coupon of 8 1/2 per cent which it arranged through Deutsche Bank.

CURRENT INTERNATIONAL BOND ISSUES

Table with columns: Borrowers, Amount, Maturity, Av. life, Coupon, Price, Lead manager, Offer yield. Lists various international bond issues including U.S. Dollars, D-Marks, and Swiss Francs.

IRAN

By JOHN EVANS

The Euromarkets falter

THE FUNDAMENTAL processes in the Eurocurrency market appear to be under pressure as a result of President Carter's freeze on Iranian assets...

One major question is whether the dollar sector was built on false premises as most observers are inclined to think, the next few weeks will tell. Certainly the sharp mark-up in prices which underlined the first two trading days of the week were not accompanied by any large flow of new funds into the market.

Members on an "equitable basis." But others dispute this, stating that many loans do not carry clauses providing for equal treatment.

MEXICO

By WILLIAM CHISLETT

A big borrower sees higher spreads

MEXICO, one of this year's most aggressive borrowers, does not expect the tightening of credit conditions in the U.S. and Japan's lower profile in international lending to have a marked effect on its sharp approach to the markets.

Bankers in Mexico feel that Eurocurrency borrowing terms are touching bottom and that after the last two years in which the Mexican Finance Ministry has had the whip hand, 1980 will be more of a lender's market.

U.S. BONDS by DAVID LASCELLES

Crisis halts rally

THE CRISIS in Iran, and particularly the threat that Iran might refuse to accept dollars in payment for oil, brought last week's promising rally in the bond markets to an abrupt halt...

Other data the market will be looking for this week include today's release of the latest personal income, capacity utilisation and housing starts statistics, all of which could provide useful clues as to the speed at which the economy is entering a recession.

The easing of pressure on the Fed funds market is one reason why Wall Street does not expect any major policy developments from tomorrow's Federal Open Market Committee meeting in Washington.

FT INTERNATIONAL BOND SERVICE

Large table containing bond market data including US Dollar, Yen Straights, Eurobond Turnover, Floating Rate, and Convertible bonds. Includes columns for Issued, Bid, Offer, Day, Week, and Yield.

Advertisement for ELECTRICITE DE FRANCE, U.S. \$1,000,000,000 ELEVEN YEAR EURO CREDIT FACILITY. Includes logos and contact information for various banks.

URUGUAY



BASIC STATISTICS	
Total Land Area	176,215
Total Sea Area	120,584
Population	2,851,963
Demographic Growth	1.2%
Life Expectation at Birth	74
Literacy	94.5%
Ratio of Registration for primary Schools	87%
Ratio of Registration for Secondary Schools	47%
Ratio of Registration for University	4.7%
Number of People per Doctor	1,042
Number of People per bed in Hospital	182
Annual per capita income (US\$)	1,350
Average Temperatures (in Centigrade)	Winter 12 Summer 25
Hours of Sun per year	2,827
Inflow of Tourists in last 12 months	725,000
Size of neighbouring markets (in millions of inhabitants)	
Brazil	110
Argentina	26
Paraguay	3
Bolivia	8

URUGUAY: AN EXPANDING ECONOMY

Current Situation

The Uruguayan economy has been growing, during the first half of 1979, at a rate of 8.6% in annual terms.

This is the consequence of a better use of the productive resources available in the country within the framework of a policy of liberalisation of the different sectors of the economy and the opening of the economy towards external markets.

Practically the whole of the extension of the country is arable land, suitable for agriculture and grazing, and with a very high degree of fertility. Hence, the agricultural sector provides a large part of the input for the manufacturing industries, of long-standing in the country.

However, the high degree of diversification of the industrial sector determines that this sector also has in import a large number of raw materials and intermediate goods not available domestically.

The complete freedom that exists at present regarding the inflow of all sort of goods from abroad, as well as the low rates taxing the imports of those goods allow for a fluid supply. Imports of raw materials and intermediate goods — excluding oil — represent half of the total imports.

Manufacturing industries in the last years have been growing at rates of above 5% per annum, and the rate of growth for the industrial sector as a whole reached 11.5% in annual terms, in the first half of 1979.

Uruguay has also at its disposal abundant fishing resources. Fisheries develop at an extraordinary pace (83.8% p.a. in the first half of 1979). The volume of catching during 1978 reached 70,000 tons, and the estimates for 1981 are a production of 200,000 tons.

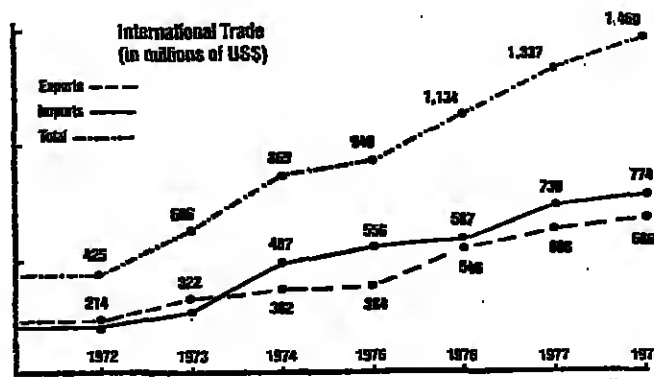
Investment and Human resources

This level of economic growth that Uruguay is registering now, is the result of efforts the country has been performing with regards to investment and general efficiency of the economy. As an average, during the last five years total investment in real terms has been 30% higher than the total investment made in the preceding five years. Investments in machinery and equipment have been facilitated by the complete liberalisation of the regime of imports implemented during the period, and the elimination of import duties on Capital goods.

As regards human resources, the volume of skilful labour force existing in the country has contributed to a very important degree in this process of growth. In the last five years total employment increased 7.3% and the labour force that has received on-the-job training has increased 43.8%.

Moreover these figures compared with the expansion registered by global production show a considerable increase in the level of productivity of the labour force.

Finally it must be emphasised that during the last five years the productive activities have been receiving an increasing volume of credit from the banking system.



Exports

The increasing rhythm of manufacturing and the fishing industry has been connected in the dynamic trend showed by exports. During the last five years, exports have been growing at the average annual rate of 17.2%.

This fact is more significant if one considers that the ratio of products with a high content of value added, to total exports has been growing constantly.

A clear example of this statement is offered by the leather industry at large. While in 1972, leather and hides represented 89% and only the remaining 12% were their manufactures, in 1978 manufactures of leather represented 79% of the total of the branch while plain leather and hides reduced their participation to 23%, in spite of the fact that the branch increased its level of activity in 40%.

The possibilities obtained to participate in the markets of Argentina and Brazil resulting from Commercial Agreements with these countries, provides Uruguay with further favourable conditions in export products to a potential market of 136 million inhabitants.

Construction

During the recent past construction has shown rates of growth higher than 10% per annum. For the first half of 1979 that rate, in annual terms, reached 17.8%.

This dynamic trend has been based both on public works related with infrastructure projects and works undertaken by the private sector.

The latter are located mainly in the capital city — both for dwellings and factories — and in its main seaside resort, Punta del Este, to cope with the increasing inflow of foreign tourists. Tourism represents an important source of foreign exchange for the country.

International Reserves

The amount of nearly 1.6 billion Dollars of international reserves in the whole of the banking system constitutes another remarkable aspect of the present situation of the Uruguayan economy. 79% of these reserves are held in gold (this gold being priced at 300 US\$ the ounce).

The level of reserves has grown during the last three years at the average annual rate of 20%, as a result of a considerable inflow of foreign capital, which during the period, increased at an average annual rate of 27.9%.

This inflow of capital relates to:

- complete freedom for financial movements,
- free access in the exchange markets,
- existing levels of interest rates both in domestic and foreign currency, which are competitive with international levels,
- freedom for the foreign investor to transfer both profits and principal at any moment,
- similar treatment for either domestic or foreign investor,
- a general climate of institutional stability, which in the end gives the support in the long continuity and permanence of the economic strategy and policies, and ensures that all the rights of the foreign investors will be respected and defended.

The solid position registered in the level of international reserves has allowed Uruguay to obtain better credit conditions in foreign markets, reflected in more favourable rates of interest and better general terms. Therefore, the country has sensibly improved the profile of its external debt and now more than 43% of its total has maturities beyond five years.

Public Sector

In the first nine months of 1979, fiscal results of the Central Government showed a surplus of 11.4% over total expenditure and the perspective is that the operations of the government will end in balance at the end of the fiscal year. This will be due to the higher degree of fiscal discipline and the increase in the levels of efficiency in public administration.

Process of Change

During the process of change of the structure of the Uruguayan economy which is under operation, and which is aiming to establish the base for a sustained growth, two main stages can be defined.

The first of them tried to overcome the stagnation of the economy and the crisis in the external sector, two factors registered during a long period before the start of this process of change.

The prevailing framework for this effort was a model of liberalisation and of a more external-orientated economy.

At present, the government considers that first stage already achieved. The economy is showing a persistent rate of growth (which, as already mentioned reaches 8.6% in annual terms in the first half of this year); the balance of payments has shown continuous surplus, with the consequent increase in the level of reserves; exports and imports have increased considerably and the latter have allowed the adequate supply of inputs and capital goods needed for the development of productive activities; and an important progress has been done in the liberalisation of the system of prices, allowing a better functioning of the free-market mechanisms.

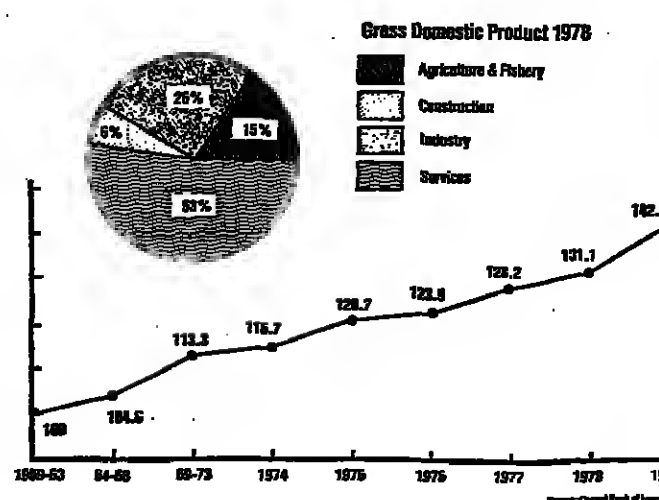
Perspectives

For the coming years it will be necessary to deepen this process, asking for a higher degree of efficiency in both the public sector and the private sector, and restructuring the factors influencing these aspects in order to bring the system to a more organic and dynamic functioning.

With regard to the private sector, the government will continue with the process started in 1974 of reducing the general level of tariffs on trade.

In this respect, a clear programme for the reduction of tariffs has been approved. This reduction will place tariffs, at the end of a period of five years, at a level compatible with the objective of defining a degree of domestic productivity similar to that existing in international markets.

As for the public sector, important achievements for a higher efficiency have already been obtained, by means of decisions tending to a better allocation and use of its resources.



The government has now under study further changes concerning the sector as a whole. During 1979 a new law has been approved containing important measures which define a global policy for public current expenditure and public investment. This will allow the elimination of fiscal deficit, as is already happening for the results of 1979.

At the same time, during the past period the tax system has been simplified both regarding taxes on domestic activities as well as on imports, and following this process of change, the government is also considering a better adequacy of the tax regime to the new structure of the economy that will emerge from the new global strategy. One of the main aspects of this future regime will be the reduction of fiscal pressure on the economy as a whole.

Inflation

There is a well known fact, specially in the economic fields, that it is impossible to achieve a large quantity of goals in the short term at the same time, since they can be contradictory at that moment.

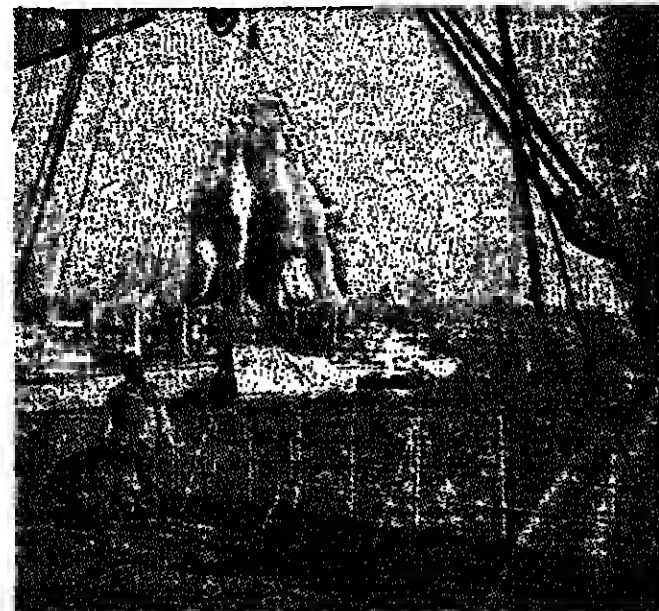
This determines the necessity of establishing an order of priorities, and the reevaluation of some of those goals as long as others are being achieved.

As it has already been pointed out, one of the priorities of the economic authorities in the recent past was the increase of the level of international reserves, in order to allow the country to place itself in a more appropriate standard in the international financial markets, and also to give the Central Bank the possibility of maintaining a policy of fixing exchange rates.

Having consideration that the rhythm of inflation would challenge in the long run the process of economic growth, a policy aiming to reduce its pace was implemented. It was based on monetary, fiscal and income discipline.

This policy rendered possible the reduction of the considerable rates of inflation registered in the past, bringing them to more acceptable levels, which nonetheless were still considered high.

It must be pointed out that during this time the objective of increasing the level of international reserves — which was given priority "vis a vis"



the reduction of inflation created problems with the expansion of the money supply and limited the achievement of lower rates.

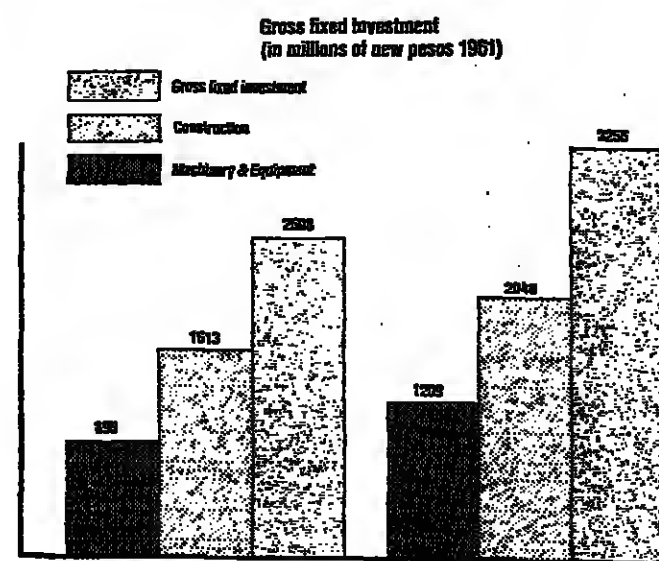
During 1979 the rhythm of inflation has once again accelerated. Different pressures originated both in domestic and foreign markets renewed expectations and further important increases in the levels of reserves made the control of the money supply very difficult hence pushing prices up.

With the establishment of a solid and sustained trend of economic growth, and having overcome the crisis in the external sector, the government has recently reevaluated the anti-inflationary objective. In this respect special attention is being given to the foreign exchange policy while the monetary and fiscal policies are orientated to keep the balance of payments in equilibrium.

The government is aware of the important role played by expectations in the behaviour of economic agents, and specially in their impact on the levels of inflation. In this respect, it has consolidated a policy aiming to assure the adequate trend of certain economic variables with important influence on the development of expectations.

MAIN ELEMENTS IN THE ECONOMIC POLICY

A sustained rate of growth in the productive sectors, a substantial increase in the levels of exports and a solid position in the balance of payments are the more notorious achievements of the present economic policy in Uruguay.



These results are accompanied by a remarkable expansion of the levels of investment, both private and public, rendered possible by the considerable increase of domestic saving and the important inflow of foreign capital.

On the other hand, the fiscal operations of the Central Government have succeeded in substantially reducing fiscal deficit, and the estimates are that the fiscal year of 1979 will show an equilibrium of the accounts.

Together with this reactivation of the economy, special importance has been given to the achievement of higher levels of efficiency both in the private and the public sector. Important progress has been already made in this direction within the framework of a model of liberalisation and of opening of the economy, which is stimulating the functioning of the mechanisms of the free market and giving the export sector a relevant role in the strategy for development.



Liberalisation, Opening of the Economy and Growth

The new model of economic development for Uruguay was meant to improve the private sector, revitalizing the instruments of the market in order to allow a more efficient allocation of productive resources.

In this respect, access to the foreign exchange market is free, anybody able to make deposits and open credits both in domestic and foreign currency.

At the same time, prices of goods and services which in the past were administered, have been gradually liberalised.

Also wages and salaries have been gradually liberalised: competitive increases determined by the government, which in the past had to coincide with those effectively granted, define at present the minimum level, being entrepreneurs able to give increases above the legal minimums.

The reactivation of the economy within the framework of an external-orientated policy follows two main considerations:

- Uruguay had registered during many years persistent stagnation of its production, as a result of the exhaustion of the import-substitution strategy adopted in the past. This model had orientated production to a domestic market, of reduced dimensions, within the context of high levels of protection.
- In order to stimulate the economy, it was necessary to integrate Uruguay in the international markets by means of stimulus on export-orientated productive sectors.

The result of all this process has been the reactivation of the economy in general by means of the growth of those export-orientated productive sectors, a large increase in the volume of transactions with foreign markets and the subsequent rise of the level of international reserves at the disposal of the country. This rise allows a normal supply of foreign goods and commodities and hence an improvement of the levels of investment in the different sectors.

At the same time, all the administrative procedures applied to imports have been simplified and rationalised and a general reduction of the tariff protection is in process.

In this way, domestic prices will have to come closer to international prices and therefore the sectors will have to improve in their levels of efficiency if they want to remain competitive.

Balance of Payments and International Reserves

The continuity of the growth requires an adequate supply of raw materials and capital goods, specially important because of the long period of stagnation of the economy in the past has meant a disincentive to investment and the subsequent lack of modernisation of productive sectors in terms of machinery and technology.

Given the high dependence of the country on external markets for the provision of certain basic supplies — including oil — and capital goods, the economic authorities foresaw as inevitable a deficit in the current account, which had to be financed by the capital account of the balance of payments.

This inflow had also to be increased by the needs of the development of a solid level of international reserves which should facilitate the country to join the world financial market in a more adequate way.

The implementation of the general strategy in the financial sector meant the opening of the foreign exchange market for financial purposes in 1974 that was followed in 1976 by the liberalisation of the rates of interest which therefore moved to more competitive international levels.

Role of the Public and Private Sectors

The present economic strategy of Uruguay gives an important priority in the private sector. The government intends to revitalise the mechanisms of the market which in the last instance will orientate the decisions of entrepreneurs and result in a more efficient allocation of productive resources.

Under this scheme the state has also an important role which is to create institutions able to assure a proper functioning of the market. It is not however the "paternalism" of the past and the entrepreneur will have to take his own risk.

Another two aspects to consider regarding the role to be played by the public sector in general are the needed achievement of an equilibrium in the operations of the Central Government and the increase in the levels of its efficiency, which must follow similar patterns to those demanded to the private sector.

In this latter aspect even though the government has been aware of the need of a certain period of time for this general improvement, it already has reached important targets in terms of rationalisation of public enterprises, and in the denationalisation of those enterprises the government considered out of its normal responsibilities.

With regards to the Central Government, several measures concerning fiscal discipline and administrative reorganisation have been introduced, as well as measures simplifying the tax and collecting systems.

هكذا من العمل

BUSINESSMAN'S DIARY

UK TRADE FAIRS AND EXHIBITIONS

Table listing UK trade fairs and exhibitions with columns for date, title, and venue.

OVERSEAS TRADE FAIRS AND EXHIBITIONS

Table listing overseas trade fairs and exhibitions with columns for current date, title, and venue.

BUSINESS AND MANAGEMENT CONFERENCES

Table listing business and management conferences with columns for date, title, and venue.

The week in Parliament

TODAY

COMMONS—Civil Aviation Bill, second reading. SELECT COMMITTEES—Public Accounts; taxation of earnings of offshore employment and taxation of woodlands. Witnesses: Inland Revenue, 4.45 pm. Room 16.

TOMORROW

COMMONS—British Aerospace Bill, second reading. Charging Orders Bill. LORDS—Ball (Scotland) Bill, committee. Hypnotism Bill, committee. Short debate on energy programme and nuclear industry. SELECT COMMITTEES—Parliamentary Commissioner for Administration. Witnesses: Commission for Local Administration in Wales. Commissioner for Local Administration in Scotland, 5 pm. Room 6.

WEDNESDAY

COMMONS—Debate on EEC Budget. LORDS—Short debate on deterioration in the use of the English language. Short debate on need for a National Youth Service. Short debate on plans to integrate chiropractic into the National Health Service. SELECT COMMITTEES—Public Accounts. Subject: National Oil Account. Offshore Petroleum Production Licensing and Government participation. Witnesses: Dept. of Energy, 4 pm. Room 16.

THURSDAY

COMMONS—Supply day debate on subject to be announced. LORDS—Insurance Companies Bill, third reading. Milk (Extension of Period of Control of Maximum Prices) Order. Bill of Rights Bill, committee.

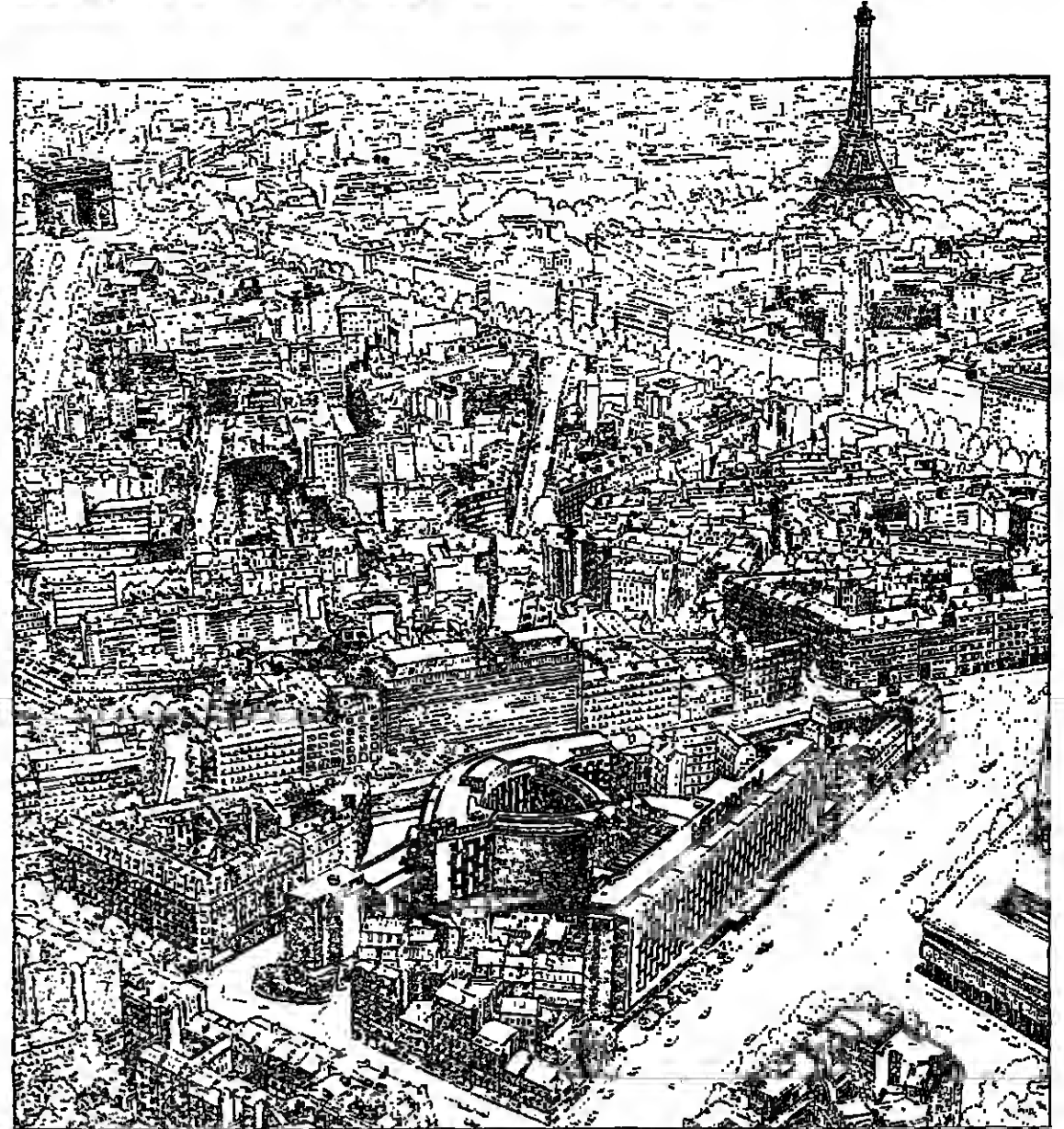
FRIDAY

COMMONS—Private Members' Bills.

Silicates plant to be built

JOSEPH CROSFIELD and Sons, the Unilever specialised chemicals subsidiary, is to build an £8m plant at Warrington to produce precipitated silicas and silicates. The additional facilities will start production in about two years time, giving Crofsfield a capacity of up to 30,000 tons a year. Main contractor for the project is Matthew Hall Noreain Engineering. Precipitated silica and the closely related aluminium and calcium silicates are used as reinforcing fillers for rubber, and in mastics and similar products. Precipitated silicates are used in emulsion paints to improve opacity and whiteness.

BE IN THE RIGHT PLACE.



BESIDE THE ETOILE, OPPOSITE THE PALAIS DES CONGRES AND THE AIR FRANCE TERMINAL, BETWEEN THE CHAMPS ELYSEES AND LA DEFENSE: THE MERIDIEN PARIS.



81, bd Gouvion-St-Cyr 75017 Paris - Tél. (Intern. 331) 766.12.30 - Télex 290952 cable Homer.

ADVERTISEMENT

URUGUAY continued

MAIN DEVELOPMENTS OF THE ECONOMY

The international crisis which occurred in 1973 affected the country both through the general increase of the prices of imports — mainly oil — and through the reduction in the prices of beef and wool — the main items of the traditional exports of Uruguay. This aspect was worsened by the subsequent ban on imports decided by countries which represented traditional markets, for Uruguay, as a result of deepening of protectionist policies in those countries.

Productive Activity

In face of this international situation, Uruguay decided to modify its growth strategy — which gave priority to the development of traditional activities — and placed the emphasis on the non-traditional sectors. The positive results of this change of strategy start to emerge mainly this year, and the growth of G.D.P. registers during the first half of the year an increase of 8.6% with respect to the same half of 1978.

This figure represents an exceptional increase with regard to traditional standards of the country, which during the fifteen years from 1959 to 1973 only grew at the average rate of 0.8% p.a.

Gross Domestic Product by Sectors

Table showing cumulative annual rates of growth by period for Agriculture, Fishery, Manufacturing, Construction, and Services from 1968-1973, 1974-1978, and 1979.

(x) First half of 1979 over First half 1978 (xx) This figure is not representative because of the irregular character of the year-base 1968, during which the production suffered an important slump with regard to the levels of preceding years. For the period 1970-73, the cumulative rate reduces to 0.1%.

During this process of growth, manufacturing industries, fishery and construction, developed into the most dynamic sectors. Because of its high share in real G.D.P. (20%), manufacturing was the sector with the main impact in global growth.

The approval of the Law of Industrial Promotion represented an important factor to stimulate manufacturing activities. The law grants those projects having been declared of National Interest the possibility of access to credit in more favourable terms, and the exoneration of a large part of the taxes borne by the activities in general. It is important to notice that this benefit applies both to national and foreign entrepreneurs.

Another benefit for industries was the exoneration of import duties on capital goods required by the process of investment.

The dynamics of the manufacturing sector at large was mainly based on export-orientated industries, as a consequence of the general strategy adopted. In this respect it is worth mentioning the sub-sectors of leather and hide industries, and textiles. During the last five years they grew at cumulative annual rates of 19.1% and 9.4% respectively.

Also foodstuffs, rubber, chemicals, and paper were areas of high level of activity because of the increasing possibilities for their production in external markets.

Construction was another very dynamic sector, undertaking important projects both for the public sector (energy, natural roads) and private sector.

Fishery, which has been promoted fundamentally since the approval of the National Plan of Fishery Development, has been growing since 1975 in an extraordinary way. The volume of nominal catching tripled between 1974 and 1978 hence, increasing from 16,000 to 70,000 tons.

In Agriculture, during 1979 the first positive signs of the response to the measures adopted in August 1978 concerning the sector are starting to emerge, and livestock registers an annual rate of growth of 5.9% during the first half of the year.

This area of activity had not followed until now the rhythm of growth of the rest of the areas, and the main reason for its virtual stagnation was that the sector had not benefited from the general process of liberalisation implemented in other areas. The reason for this apparent omission was the difficulties involved because of the complexity of the prevailing legislation.

During August 1978 the government adopted a set of measures tending to eliminate the effective negative protection suffered by the sector, mainly in the area of beef production. The producer was receiving prices below international levels and at the same time was paying for his input prices above those levels.

- Basically the measures established: — liberalisation of cattle and beef, — freedom to establish slaughtering plants all around the country, for the domestic supply, exports or both, — import of tractors with the minimum import surcharge.

All these measures, together with the recovery of international prices of beef and wool which is under way will increase the levels of profitability of the sector, and this fact will stimulate further investment and successive rises in the volume of production in the medium term.

Investment

This process of economic growth which is being described has also been rendered possible through increasing levels of investment. In the last five years, the average annual amount of investment was 30% higher in real terms, than the average annual amount invested in the preceding five years. This is the result of increases of the order of 27% in construction, and 35% in machinery and equipment.

These higher levels of investment were financed by means of both domestic and foreign capital.

Since the general liberalisation of the economy, interest rates reached higher levels and in real terms they became positive, hence stimulating domestic savings.

On the other hand positive rates on loans reallocated investment in more profitable areas, and eliminated subsidised credits which financed inefficient activities.

Deposits of the private sector in the commercial banking system constitute a good indicator of the trend of domestic savings. These deposits, in real terms, more than doubled during the last five years.

At the same time, that bigger inflow of resources to the banking system rendered possible a higher volume of credit. Hence, the total amount of credit advanced by the banking system to the private sector rose in real terms by 42%. This fact is more remarkable if one considers that more than 70% of that total amount goes in the goods producing sectors.

The option of implementing the adequate level of investment required by this process of growth meant an increased effort in domestic saving. This effort was reflected in a change in the share of consumption and investment in the total domestic demand. Consumption decreased its share of the total, from 88% in 1973 to 81% in 1977, while investment increased from 12% to 19%.

This downturn in the share of consumption reflects a deterioration in the levels of real wages and salaries, which during the same period was reduced about 20%.

This fact was one of the most important social costs on the shoulders of the society at large introduced by the changes in the economic structure.

However, the results achieved in terms of economic growth had allowed this persistent deterioration to stop and from 1978 consumption started to improve, registering an increase of 5.3% with respect to the previous year.

This effort in domestic saving was accompanied by an important inflow of foreign capital, which enjoys similar regulations that apply to domestic capital. Furthermore, the general climate of institutional stability assures that all the rights of investors will be protected and respected.

The big inflow of capitals from abroad implied an increase in the amount of foreign debt. However, at the same time and because of the dynamic trend of exports the economy saw a sensible reduction in the total debt-exports ratio.

While during the period 1969-73 external debt amounted for two and a half years of exports, in the period 1974-1978 the ratio reduced to two years and for the present year estimates are of one and a half.

At the same time during this period the profile of the foreign debt has been improving considerably, as a result of the degree of confidence existing in the international market with regard to the economic and financial situation of the country. At the end of 1973 debt with maturity beyond 5 years represented 20.8% of the total, and at the end of 1978 this net was representing 43.2%.

Together with improvement of the profile, the country has benefited from better general terms including rates of interest.

Foreign Trade

The period 1973-1978 registered a notorious improvement in the opening of the economy and the amount of transactions increased 140.9%. The increase for the period 1967-72 reached 29%.

This increase in trade is due to a rise of exports of 113.4% and a rise of imports of 271.9%.

Non-traditional exports showed the highest rhythm of performance allowing not only a bigger diversification of the sector as a whole — hence diminishing the vulnerability of the economy — but also the development of activities with higher share of value added. This, in the context of a progressive improvement in the levels of efficiency. From 1973 to 1978 non traditional exports grew 409.2%, while traditional exports remained practically unchanged. This meant a shift in the pattern of total exports, and non traditional which represented 27% in 1973, represented 64% in 1978.

50% of non-traditionals are constituted by hides and skins, manufactured leather, textiles and shoes. These sectors use inputs produced domestically and have grown well above the average rate.

During the period 1973-78 under consideration, textiles expanded 635.9%, shoes 1881% (the highest rate) and hides and skins and their manufactures 425.3%. It is also worth noticing that in this last item, the growth is due to the activity that incorporates more value added, that is manufactured leather, which grew 1721%.

Fishery is another very dynamic area of exports, and the volume of activity of this area represents now 5.2% of the total of non-traditional exports.

Other areas of high dynamics are citric, rice, cement, rubber tyres, chemicals, plastics, and electricals.

The growth of export activities had to be promoted by means of a regime of fiscal and credit facilities which supported their development and penetration in foreign markets, since in general they started with levels of inefficiency and had to bear at the beginning a high burden of taxes and tariffs originated in the inefficiency of the public sector.

All these facilities have been gradually reduced, since the idea has been of using them as instruments of initial promotion and not a permanent regime financing permanent inefficiencies.

Traditional exports have remained practically unchanged during 1973-78. This situation emerges from two main facts, one domestic and the other from external origin.

The external fact is the general crisis the world economy has been suffering since 1973.

The domestic fact has been the general level of stagnation registered in the agricultural sector, and which at present has been solved with the measures approved in 1978.

With regards to exports of beef, while during 1967 to 1973 prices in the international markets were continuously increasing, in 1975 and 1976 these prices suffered an important downturn.

Only from 1977 to 1978 prices started to recover partly even though in 1978 they still remained 35% below those obtained in 1974. However, the average volume of beef exports in the period 1973-78 were a bit higher than those corresponding to 1967-72.

Wool suffered a similar process, and the critical year was 1975, when the downturn of prices was more than 40% of the prices of 1973. The present recovery of the level of prices has been reflected in a rise in the volume of exports at the end of the period.

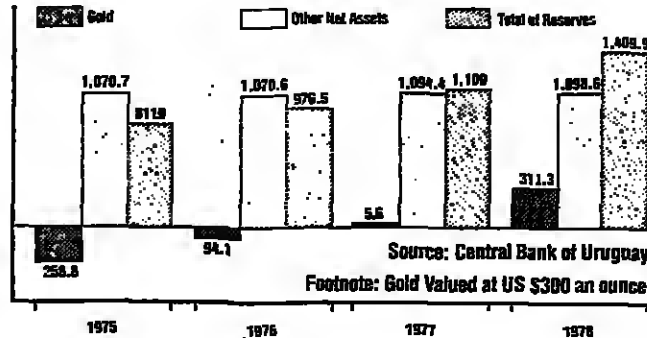
As for imports, from 1973 to 1978 they showed an increase of 171.9%, compared to an increase of 23.4% from 1967 to 1972. Even though this expansion meant a persistent trade deficit since 1974, it is worth noting that these deficits are largely explained by the increase in the price of oil, — which meant a quadrupling of the total amount paid for it —, as well as for the enormous increase of imports of capital goods and equipment.

In this respect it has to be pointed out that the economic authorities were aware of the increase of the deficit, which was justified by the needs of the economy to increase its level of productive equipment. Besides, the solid financial position registered in the balance of payments allowed for the existence of that deficit.

As a result, oil has considerably increased its share in the total of imports, and from US\$ 55 millions in 1973 which represented 19.3% of that total, shifted to US\$ 219 millions in 1978, which represents 28%.

Capital goods have recorded the highest increase in the period shifting from US\$ 22.3 millions in 1973 to US\$ 103.2 million in 1978. This figure is even lower than those corresponding in 1976 and 1977, given the even higher levels of imports during those two years of US\$ 117.2 millions and 137.7 millions respectively.

Net International Reserves



The deficit registered in the current account of the balance of payments has been more than compensated by the inflow of capital (from 1977 to 1978 increased 41%). This has also allowed an important increase in net international reserves.

In the years 1974 and 1975, the deterioration of the terms of trade had resulted in important losses of reserves. Since 1976, the solid situation, the country has traditionally presented in terms of gold reserves has been complemented by an improvement in the amount of other reserves, both by a substantial rise of the reserve assets as well as by an important reduction of the liabilities occurred in 1978, basically as a consequence of the cancellation of financial obligations with I.M.F.

In the first half of 1979, the level of net international reserves had increased by US\$ 160 millions. Hence the total of the reserves of the banking system represented approximately two years of imports.

Public Sector

Since 1976, the Central Government has been recording permanent improvements in its operations. During the last three years, total revenues in real terms have been growing, basically as a result of more efficiency in the administration of taxes.

As regards expenditure, between 1976 and 1978 current expenditure in real terms practically have remained unchanged.

Investment expenditure, on the other hand has registered an important increase, mainly due to the hydroelectric projects and the improvement of the national roads network.

FINANCIAL TIMES SURVEY

Monday November 19 1979

كتاب من الأعمال

Italian Banking and Finance

For all its alleged deficiencies, Italy's banking system has proved one of the more robust sectors of the economy. As the weight of world recession increases it is once again being asked to shoulder much of the burden.

Back to familiar crisis role

By Rupert Cornwell

THE ITALIAN economic sky right now is decidedly dark. For more than 12 months, up to this autumn, the country has enjoyed a respite from the seemingly endless string of rises since the early 1970s. The lira was the early pacemaker in the newly fledged European Monetary System (EMS), the balance of payments one of the strongest in the industrialised world, trade was almost in the black, and inflation had dropped by the end of 1978 to the respectable (by Italian standards) level of 12 per cent. And all the time the economy had been gathering steam, with the growth rate this year forecast to be between 4 and 4.5 per cent. Indeed the indicators at least suggested a fleeting return to be almost forgotten days of two decades back, and the original Italian "economic miracle." But the Indian summer is over, as

suddenly as it began. That the change in outlook has been so swift and in many respects so depressing is in large measure due to the fact that the inbuilt economic fallings which brought the country to its knees three years ago were merely masked, and not removed, by the brief return to virtue.

Italy faces the new oil-induced world economic slowdown, burdened by the old familiar difficulties profound social and political tensions, the entrenched evils of a swollen and often uncontrollable public sector and State borrowing requirement, and rapidly rising labour costs which erode the country's international competitiveness and keep domestic inflation at, or among, the highest in Europe.

As successive articles in this survey will show, Italy's banking and financial systems are conditioned by, and in some respects epitomise, these structural problems. But once again monetary and credit policy, applied through that same banking system, are likely to be the main weapon employed by the authorities to control the economy.

Sig. Guido Carli, the former Governor of the Bank of Italy, used to describe this method of economic management as "a bit like driving a car with only the accelerator and a brake." But the inefficiency of the country's bureaucratic and administrative machinery, and the weaknesses of so many Italian Governments, has left little choice. That state of affairs is truer than ever today.

The present Christian Democrat-led Government of Sig. Francesco Cossiga is explicitly designed to provide only a stop-gap until a more stable solution can be found. Admittedly Italy is a country where the temporary has a habit of becoming permanent, but the general dissatisfaction with the present formulas is such that Sig. Cossiga's Prime Ministerial life expectancy is unlikely to exceed six months.

Redoubts

Paradoxically though, the failure of the politicians to provide the country with a properly working government has not prevented a mounting encroachment into the banking system. The Christian Democrats, who have ruled Italy since the war, have long seen the top public sector banking jobs as key redoubts of their power.

But the intrusion moved on to a different plane last March, when the Bank of Italy itself, one of the very few institutions with any independence and a reputation to lose, itself fell victim of an onslaught whose political motivation was unmistakable. Charges were brought against both the then Governor, Dr. Paolo Baffi and his deputy director general Sig. Mario Sarcinelli, in connection with allegedly irregular subsidised loans directed to the Societa Italiana Resine (SIR) chemical group.

The accusations were denied, and indeed in September Dr. Baffi's reputation and dignity

completely unimpaired, handed over his post to Dr. Carlo Ciampi — in accordance with his previously announced intention of stepping down by the end of 1979. But it remains to be seen how much damage has been inflicted on the morale and working of the bank, which under Dr. Baffi often seemed to have dragged Italy back from the brink of financial disaster almost singlehandedly.

In terms of policy the change of Governor seems to have made little difference. The central bank, in Dr. Carli's terminology, is applying the brakes, but so far fairly cautiously. That indeed is only to be expected, now that the prime task of economic management is somehow to reconcile the need to preserve external equilibrium and currency stability by curbing inflation, with that of preventing a certain economic downturn in 1980 becoming an outright recession.

In most respects the country faces the forthcoming awkward period in much better shape than before the buffeting of 1974-1977. Externally there is room to manoeuvre. Admittedly September produced a balance of payments deficit of L589bn (\$708m), the largest for more than two years. But the out-turn for 1979 as a whole is still expected to be a surplus of \$4.5bn.

All outstanding debts to the International Monetary Fund have been cleared, and total official reserves today stand at little short of \$40bn. Although there has been some anxiety over the lira's position within the EMS, it is still faring per-

fectly respectably. Above all, perhaps, competitiveness surrendered by higher domestic inflation has been in part made good by changes in the structure of the economy. It seems highly probable that the remarkable buoyancy of Italian exports reflects the evergrowing importance of small and medium companies (some even in the notorious "submerged" or black economy), and their formidable qualities of flexibility and efficiency.

At the same time imports, usually so prone to rise sharply in times of economic expansion, have been kept under control — thanks, in some measure, it is believed by both central and commercial bankers, to more professional stocks management, often by those same small and medium-sized companies.

The upshot is that the Government is aiming for a 2.5 per cent growth rate in 1980 — barely half, it is true, that of this year, but more or less in line with the international average. That then is the bright side of the picture.

The central problem remains inflation, which after dropping to 12 per cent as an annual rate, is now running at around 1.5 to 2 per cent per month. By the end of the year the annual advance will have been 18 per cent or more, and although the budget forecasts issued on September 30 contain a target of slightly under 15 per cent for 1980, this goal may well prove over-optimistic. Higher raw material costs, especially of oil, have contributed to the spurt in prices

since the autumn but the process has been fuelled and amplified by those inherent structural weaknesses mentioned earlier. Excessive public spending, above all current expenditure, has merely injected demand into the economy, while generating little extra output. Huge sums of money are poured into chronically weak and indebted public enterprises.

Stemming from this is an enormous enlarged public sector deficit, put at L40,000bn (\$48bn) or approximately 16 per cent of Gross Domestic Product. Sig. Filippo Maria Pandolfi, the Treasury Minister and author of the short-lived plan bearing his name covering the next three years, has pledged at all costs to hold this line. But whether a government as weak as the present one will prove able to resist demands for extra spending, particularly from a more militant union movement, is clearly open to doubt. Its performance so far is not encouraging.

Undermined

But even if the deficit is held to L40,000bn the cost will be enormous. Deficit financing on this scale, coupled with the need to try to give savers a decent return, has kept interest rates much too high for much too long for the health of the economy. Massive borrowing charges have seriously undermined the finances of Italian industry, and sound private borrowers have often risked being

"squeezed" out by unsound public ones.

The absence of an effective stock market and of any mechanism to provide risk capital has meant that private borrowers have little choice but to borrow from the banks. Yet the public sector in one shape or another devours 85 per cent of total credit available. Not surprisingly, a low rate of investment and of research spending are among the most serious longer-term question marks over Italy's economic future.

Moreover, indications are that money will become even more expensive in the months ahead. Early in October the Bank of Italy raised its discount rate from 10.5 per cent to 12 per cent, partly to signal its intention to use credit policy to fight inflation but, more important, to align short-term domestic rates with those abroad, thus discouraging Italian borrowers from repaying more expensive foreign currency loans and keeping the country a sufficiently attractive home for foreign funds.

In quick succession the commercial banks lifted their own "prime rate" by 1.5 per cent to 16.5 per cent, and the central bank announced an extension of the credit ceiling on bank lending in lire which implies a moderately severe credit squeeze until the mid-eighties — assuming inflation continues at the expected pace. One consequence the central bank is hoping for is an increase in borrowing abroad by Italian corporations, which would automatically have the effect of

boosting currency reserves should the lira come under any pressure.

The money markets do not yet seem convinced, however, that the worst is over. Difficulties in disposing of all the Treasury bills on offer at the routine October auction (a mechanism roughly corresponding to Britain's gilts market) suggest that expectation of still higher rates are fairly widespread. The latest spate of international interest rate increases—in the U.S., Germany and Japan—can only reinforce this feeling.

A clearer picture will only emerge once the Washington measures to clamp down on Euro-market borrowings by U.S. borrowers takes effect. These could help take the pressure off European demand, at a time when credit demand will be feeling the first impact of the general economic slowdown and when attention is turning increasingly towards supporting demand and investment.

Italy in any case looks far better equipped to withstand any rough ride ahead than she was a few years ago. As the terms of latest Euro-market borrowings suggest, the "Italian risk" (that portmanteau word for unquantifiable dangers of political-cum-social-cum-economic breakdown once so beloved of international bankers) is no longer heard. But whether the steady increasing differential between inflation in Italy and that of its partners in the EMS will not begin to weigh heavily on the lira is another matter.

The Italians invented international banking.

Banco di Roma takes a great tradition still further.



great Italian Bank, Banco di Roma, takes this great tradition still further.

To its 300 Italian branches you can add offices and agencies in every centre where the world does business.

Staffed by experienced, flexible, and quick-thinking people, the Banco di Roma system can provide you with a competitive edge in this competitive world; rapid and in-depth information on market trends; syndicated loans; financing, from major projects to shorter-term cash flow problems; transfers, payments, foreign exchange, all underwritten by a 99-year track record of reliability, stability and expertise. Contact your nearest Banco di Roma office or agency and you have at your fingertips all the services you have a right to expect from a great international bank; and something that will come as a pleasant surprise: a warm, and open hearted touch of Italy.

Trade, culture, finance: the hub of them all was Renaissance Italy. With very Italian inventiveness, adaptability and vision, old methods of doing business were transformed into a more efficient and internationally valid system. The concept of modern banking had begun. Today a

ASSETS	LIABILITIES
Cash Resources 2,736,438	Shareholders' equity 254,707
Investment Securities 2,719,759	Deposits 17,790,978
Loans 12,724,617	Net Profit 13,138
Balance Sheet Total 19,767,796	

BANCO DI ROMA
Head office: Via del Corso, 307 - Rome, Italy

Branches where to get in touch by phone with Banco di Roma: Bahrain 222780 - Buenos Aires 2193980 - Bombay 456055 - Caracas 2841779 - Chicago 2698285 - Copenhagen 452226 - Frankfurt 2452053 - Hamburg 3320288 - Istanbul 262286 - Johannesburg 8955604 - Kuala Lumpur 484397 - London 6231881 - Lugano 212532 - Luxembourg 470652 - Madrid 2924897 - Mexico City 5393990 - Moscow 2024616 - New York 9329300 - Paris 2669316 - Rio de Janeiro 2629227 - San Francisco 9086900 - Sao Paulo 226172 - Singapore 63258 - Sydney 222521 - Telex 323738 - Tokyo 2140551 - Toronto 3640268

Why don't you bank in Italy through us? Successful business depends on the bank you deal with.

gruppo elle
a big banking group

Banks involved:

- Banca Agricola Milanese - Milano
- Banca Credito Agrario Bresciano - Brescia
- Banca di Trento e Bolzano - Trento
- Banco S. Geminiano e S. Prospero - Modena
- Credito Artigiano - Milano
- Credito Bergamasco - Bergamo

- All associated with SWIFT
- \$ 6,094,000,000(*) in savings and current accounts
- \$ 7,389,000,000(*) in deposits and administered funds
- 315 branches
- 5,500 employees



Operating area of the "Gruppo Elle"

We offer you an up-to-date banking service in various fields related to domestic and foreign business in the friendly atmosphere of traditional Italian hospitality.

ITALIAN BANKING AND FINANCE II

Task of rescuing industry

BANCO DI NAPOLI
 BANK INCORPORATED UNDER PUBLIC LAW
 Capital: Funds and reserves Lit. 211,569,804.482
Head Office in Naples
Representative Office of the General Management in Rome
500 Branches in Italy
Branches abroad Buenos Aires • New York
Representative Offices abroad:
 Brussels • Frankfurt-am-Main • London • Moscow
 New York • Paris • Tokyo (through A.I.C.I.-Holding S.A.) • Zurich
Representative for Bulgaria: VITOCHA-Sofia
 Banking Associated Companies abroad:
 • A.I.C.I.-Holding S.A.—Luxembourg
 • Italian International Bank Limited, London
 • Italian International Bank (Channel Islands) Ltd., Guernsey
 • Luxembourg Italian Bank, Luxembourg
 • Euramerica International Bank Ltd., Nassau
 • Atlantic International Bank Ltd., London
 Correspondents throughout the world

THE ITALIAN banking system is currently caught up in a colossal operation to rescue some of the country's main industrial groups which has no precedent in Italy's post-war history. For the banks the implications of the present situation and the magnitude of the problem are such that it is not surprising credit institutes have so far shown a timid response to the proposals now being drawn up for the financial and industrial reconstruction of troubled Italian enterprises.

The crisis has afflicted both private and State sector groups, particularly in key sectors like chemicals, steel and telecommunications, all of which were originally conceived as the basis of Italy's rapid post-war industrialisation. These groups, like the Montedison chemicals conglomerate and its synthetic fibres subsidiary Montedison, Sir and Liquigas, or the steel subsidiaries of the State steel holding company Finisider, have increasingly been suffocated by huge accumulated losses and debts.

Some are now on the verge of financial collapse, with obvious repercussions on jobs at a time of growing unemployment. Officially at least, the rate of unemployment is now standing at more than 8 per cent, and the situation is particularly acute in the depressed south of the country, the so-called Mezzogiorno d'Italia, where many of these financially troubled groups have concentrated their investments.

As one of the more profitable arms of the Italian economy but also heavily exposed in many of the troubled industrial groups, the banking system as a whole is now increasingly worried that it will be burdened with the overall cost of the proposed rescue operations. At the same time it sees itself being blamed almost exclusively for the errors of the past and being transformed into a scapegoat by the political parties, especially the long-ruling Christian Democrats, who originally were the main sponsors of the rapid and largely unco-ordinated industrial development of the country.

During the last 12 months a series of controversial initiatives by the Italian judiciary has exacerbated the mood of profound apprehension of the banking system. Several leading personalities in Italian finance have

been charged with allegedly misdirecting and misusing State subsidised funds advanced to a number of these large groups. The most dramatic case concerned Societa Italiana Resine (Sir), Italy's third largest chemical group, and led to a whole battery of charges against a series of leading bankers, including Sig. Paolo Baffi, the highly respected Governor of the central bank who resigned last September.

Many leading bankers admit that perhaps the banks, by financing some of these groups, share some of the blame for the current crisis. But they also stress that the blame and indeed the responsibility for rescuing the troubled groups falls equally on the politicians, the industrialists and the bankers. In any event the charges brought against some bankers have only made it even more difficult to launch effective salvage plans, as bankers are clearly reluctant to take initiatives in the current circumstances which might eventually compromise them even more in the eyes of what are generally regarded as somewhat questionable decisions by the judiciary, or at least a certain part of the magistracy.

Deeper

Of course, errors of lending and judgment, as in many other countries, have been made by some banks. Yet the root causes of the present situation lie far deeper. In his address at the central bank annual meeting earlier this year, Dr. Baffi dwelt at some length on the problems of subsidised credit to industry in Italy and on the pattern of the country's post-war industrialisation. "The difficulties currently facing a large sector of the Italian credit system reflect the crisis of several industrial sectors caused by a series of domestic and external factors including the system of subsidised credits for the development of the country," he said.

The problem dates back to the sixties, when low credit incentives were set up to boost industrialisation in the depressed south. The emphasis was on highly capital-intensive industries like chemicals and steel, which were seen by the authorities of the time as forming the basis for the gradual develop-

ment of smaller and medium-sized enterprises in the Mezzogiorno.

In the process, according to Dr. Baffi, credit institutes took increasing risks by assisting ventures in non-industrialised areas of the country while simultaneously seeing their decisions as banks overshadowed by Government pressures and development programmes. "The boards of the credit institutes were increasingly controlled by the authorities which effectively granted the credit facilities, and the decisions on the sifting and the amounts of specific investment were therefore increasingly subject to sociopolitical considerations."

Between 1967-70 some L4,900bn of State-subsidised credits were advanced for investments in the south, of which more than L2,500bn were for the chemical and metallurgical industries. In 1971 further funds for L3,400bn were granted, and after the 1973 oil crisis further sums of L3,000bn were advanced as the authorities thought at the time the crisis would not be as acute or protracted as it turned out to be to justify major changes on long-term investment programmes.

As a result many credit institutes saw their medium and long-term lending swell dramatically—as indeed their short-term lending in view of the financial requirements of State and Semi-State industries which were facing chronic delays in securing Government capital endowment funds. Several credit institutes faced increasingly serious problems as their outstanding credits were often concentrated in a limited number of enterprises. This was particularly the case of Italy's

leading medium-term credit institute, Istituto Mobiliare Italiano (IMI), which had exposed itself substantially in the Sir chemical group.

As the situation of many of these groups deteriorated even further, proposals were drawn up to avoid the collapse of these concerns and the grave repercussions this would have entailed on both employment and banking systems. After the disappointing performance of the State sector, there was a general consensus that further nationalisation should be avoided—as indeed also the more drastic solution of liquidation. The answer was found in a concept which envisaged the setting up of a series of banking consortia of the credit institutes exposed in a specific company, to take control of the group and launch a five-year recovery programme.

The banks would agree to a moratorium on all outstanding debts, pay off immediate creditors, recapitalise the group and guarantee the continuity of industrial activities while reorganising the troubled company's structure and reviewing its investment programme. In the event that a consortium was impossible to create, a special commissioner would be appointed to take temporary control of a group and suspend liquidation proceedings for 24 months to see whether it could be effectively salvaged.

After months of controversy negotiations are now at a final stage for the creation of two consortia for the Sir and Liquichimica chemical groups. The main difficulties have been the conflicting interests of the various banks, with those more heavily exposed in a given group clearly pressing for the constitution of a consortium spreading the risk of a salvage

between a number of other credit institutes. At the same time banks less exposed seemingly preferred outstanding loans they had rather than commit themselves in what inevitably is a risky operation. Moreover, while the basic principle of the concept is to help rescue what is worth rescuing, there have inevitably been pressures from the political parties to avoid major sludges in view of the acute social and political implications of such action.

Elaborated

But it would be unfair to underestimate the contribution the banking system has made during the past 12 months to relieve the generally gloomy situation of the country's main industrial groups. A variation of the consortium formula has been the numerous operations by groups of banks to recapitalise and consolidate the financial positions of large companies in difficulty. In the case of Montedison, Italy's largest chemical conglomerate, and burdened by huge losses and accumulated debts, the State medium-term credit agency, Mediobanca, elaborated a complex financial operation involving the biggest ever capital increase put together in Italy for an industrial enterprise and including the participation of a new Arab shareholder, the Saudi Arabian Interdec group.

Recently Mediobanca put together another package for the Pirelli tyre and cable group where a consortium of leading banks is expected to acquire a 24 per cent shareholding in the company to inject urgently needed funds. Similar operations, including the consolida-

tion of short-term and high interest bearing debts into the medium term, have been made for a number of other private and State-controlled groups like, for example, Olivetti in the private sector and Italsider in the public sector. The banks are now working on financial rescue packages for the Sma Viscosa and Montefibre textile groups.

Banks are also increasingly called on to help out the country's broad range of small and medium-sized industries, which in the past have relied essentially on their own devices and on their self-financing capacity. But these groups, which are as fundamental to the country's economic structure as the large industries, are now increasingly facing economic difficulties and export competition. So far the intervention of the banking system in this key sector of the economy has been generally regarded as unsatisfactory, and the authorities are now introducing a number of measures to boost the presence of the country's main banking institutions in this field.

While the relationship between banks and industry in Italy continues to remain delicate and the emphasis is clearly placed on the urgent rescue operations of large industrial conglomerates, there has nonetheless been a fundamental change of outlook and more selective approach to lending by the banking system at large. The country clearly does not intend to repeat the errors of the past, which saw an indiscriminate policy of government-inspired subsidised credit facilities. But the question, as always in Italy, is whether good intentions will finally be translated into fact.

Paul Betts

SICILIANA

AT YOUR SERVICE WHERE YOU LIVE AND WORK

CASSA CENTRALE DI RISPARMIO V.E. PER LE PROVINCE SICILIANE

Mounting criticism of lending policies

AS FAR as lending to industry is concerned, the banking system operates as an oligopoly. This has reduced its own spirit of initiative and largely allowed it to forget about cost control and efficiency." This judgment on the performance of the commercial banks came from an eminently qualified source—Sig. Cesare Romiti, the top finance man at Fiat, Italy's largest private industrial concern and one who has spent much of his time dealing with the banks from the other side of the negotiating table.

It is a harsh verdict, and one that demands a good deal of qualification. But it has the merit of going to the heart of the problems surrounding the banking sector in Italy—its lack of any real competition either as a home for savings or as a provider of finance, and its intimate (too intimate many would say) ties with the public sector, which absorbs two-thirds of total credit, and with the politicians.

Nor is this state of affairs entirely to the banks' advantage. They in turn are becoming increasingly uncertain about their own role, largely as a result of the pressures on them from the Government to step in to rescue debt-ridden chemical and other groups whose basic credit-worthiness is distinctly open to question. These operations, many Italian bankers believe, are the very negation of a basic principle of the industry—the granting of credit on the basis of a proper judgment of risk.

Ambiguity

This ambiguity, reflected in the current Italian banking laws, has led to the involvement of the banking system in scandals such as that of Societa Italiana Resine (SIR), including of course in that case the Bank of Italy itself. It is not the least advantage of the present debate over the precise status and responsibilities of the banks that charges might be prompted in that legislation.

Nonetheless it is hard to escape the conclusion that the commercial banks have remained a fortunate breed, largely isolated from the upheavals which have been experienced by the national economy in the 1970s. A job in a bank is one of the best paid as well as one of the safest in Italy, and applicants are fiercely vetted.

Whatever the problems they have caused industry, high interest rates have meant that banks have remained over the years consistently, if not dramatically, profitable—except in cases of blatant mismanagement or ill-judged speculation. Credito Italiano, Banca Commerciale Italiana and Banco di Roma, the big three banks controlled by the State-owned conglomerate Istituto per la Ricostruzione Industriale (IRI), are as good an illustration of

this as any. While their combined net 1978 profits of just under L42bn (\$60m) are extremely modest, both by comparison with Britain's clearing banks and as a proportion of combined total deposits of L29,170bn (\$59.3bn), they represent one of the very few profitable areas of IRI's operations. That earnings are not higher, the banks would say, is the result of very high labour costs (Italian bank employees are among the best paid in Europe) and of the high rates they are obliged to pay depositors.

In a fundamental sense the preponderant role of the banks in the Italian financial system has made them prisoners of that system. An inevitable consequence of the failure of government to run the economy by fiscal means has been excessive reliance on monetary policy. For that reason the central bank, responsible for credit and monetary control, maintains a very tight grip on their operations.

In a country plagued by an enormous public sector financial deficit and inflation invariably well above the European norm, high interest rates have become the rule. These in turn have destroyed what small role the stock market had as a worthwhile source of capital for industry and as an attractive home for investments. The banks are moreover obliged to take up a certain quantity of Government bonds to finance that public deficit.

The public sector, in its widest sense, is now estimated to account for about 65 per cent of all credits extended by the banking system, against around 35 per cent for the private sector—a ratio more or less the exact reverse of that obtaining in France or West Germany. Admittedly some of that money is re-lent by the Government to the private sector, but often very inefficiently. The complaint of Sig. Romiti is therefore justified and understandable. But the banks themselves are fully aware of the problem and point the finger of blame in the direction of the State.

The problem is made worse by the growing entanglement of top banking posts in politics. The State's ownership of most of the largest banks in Italy dates back to the financial collapse of the 1930s. But political involvement was taken a crucial stage further from the 1950s as the ruling Christian Democrats saw control of the banks as a vital bulwark to their power.

This division of the spoils which has to take into account the views of the smaller parties associated with power in Italy, as well as the Christian Democrats and their internal factions, is becoming an ever more painstaking process. Today dozens of top jobs in some of Italy's major banks, credit institutes and savings banks remain unfilled to their obvious

detriment. Some observers moreover now detect a spread in the process down from the presidencies to the key executive posts like managing director and so on.

Less excusable, however, is the poor level of facilities available to the ordinary customer. Bank offices are as plush in Italy as anywhere else but the services offered are primitive by the standards of other West European countries. Cashing a cheque can take 20 minutes, and transactions which ought to be completely straightforward often come either as a paper-pushing nightmare or a downright impossibility. Part of the explanation must lie in the lack of competition, other than on interest rates paid to depositors.

Prodding

It is also true that many of the innovations which are prodding Italy in the direction of a sophisticated domestic money market have come about through the stimulus of the foreign banks which are opening branch offices in growing numbers in Milan and Rome. However, there are signs that the recent obsession of the Italian commercial banks with merely lifting their deposit levels may be changing. In his final statement to the central bank's meeting last May, Dr. Paolo Baffi, former Governor

of the Bank of Italy, claimed to detect a trend towards discouraging deposits which are surplus to the banks' capacity to lend profitably.

As Sig. Lucio Rondelli, managing director of Credito Italiano said recently: "We have come to understand the large deposit growth implies large leading growth and in the current state of the Italian economy this is a risky business. The latest statistics also suggest a trend, at least among the largest banks. While total deposits rose in both 1977 and 1978 by 23 per cent, to reach L187,085bn on December 3 last, the rate of expansion fell by half in the first five months of 1979."

For the smaller banks it picture is less clear. If growth of a bank in Italy reflects its location rather than any conscious management policy. And in a country with around 1,300 banks and savings institutes, the vast bulk of the with strictly local aspirations homogeneity is far less, the say, in Britain, where the clearing banks are omnipresent. This proliferation of local bank with very different traditions and obligations, not the least of the difficulties in the way of operating a credit policy in Italy.

Rupert Corriwe

Italy.

Italy, too.

Italy is certainly a marvellous country for holiday-makers. In every corner one finds thousands of years of history, art and culture. However, there is more to Italy than this, Italy also means advanced technology, painstaking research and intelligent inventiveness.

One example is "Robogate": an industrial plant, unique in the world and wholly designed and manufactured in Italy, which allows the automatic welding of a car's body.

Italy is also an open market, willing to enter into important and worthwhile trade relations with any foreign country.

Istituto Bancario San Paolo di Torino can help you in this respect with its efficient and specialized foreign organization and with over four centuries of history and knowledge of the Italian market.

San Paolo can be the right and secure way for you to deal with Italy and all countries in the world.

300 branches in Italy, Bologna, Florence, Genoa, Milan, Naples and Rome.

Mortgage loan offices in Cagliari, Catania, Pescara and Reggio Calabria.

Foreign network: a branch in Frankfurt and Representative Offices in London, Paris, Tokyo (through A.I.C.I.) and Zurich.

Your reliable bank for 400 years.

SANPAOLO ISTITUTO BANCARIO SAN PAOLO DI TORINO
 Credit institution of public law established in 1563. Head Office in Turin. - Piazza San Carlo, 159
 Capital Assets: 614 Billion Lit. - Liab.

IMI

ISTITUTO MOBILIARE ITALIANO

A WIDE RANGE OF FINANCIAL SERVICES TO INDUSTRY

- Medium and long-term finance for industrial investment:
 - *at market rates;
 - *at low-interest rates (applicable to small and medium enterprises, Southern Italy, depressed areas of Central and Northern Italy, etc.)
- Equity participations
- Aid for industrial research and development
- Shipping finance
- Financial assistance to promote Italian exports and activity abroad (export credit financing; buyer credit)
- Foreign currency loans
- Technical and financial consulting and support services, either directly or through associated companies; specialised short- and medium-term finance, leasing; underwriting; introduction of Italian enterprises on foreign financial markets; mutual investment funds; auditing; trustee services.

IMI raises funds on the Italian and foreign capital markets mainly by floating bonds which are listed on the stock exchange and very popular among small and large investors.

Loans outstanding including special operations as of March 31, 1979: Lit. 12,331 billion = \$ 14,862 m.
 Placed and outstanding bonds as of March 31, 1979: Lit. 9,937 billion = \$ 11,831 m.
 Other medium-term borrowings as of March 31, 1979: Lit. 1,537 billion = \$ 1,830 m.

HEAD OFFICE:
 25 VIALE DELL'ARTE — 00144 ROME, ITALY
 Representative Office: 8 Laurence Pountney Hill, London EC4R 0BE
 Telephone: 6263122/3/4. Telex: 887671 IMI London
 Other Representative Offices in: Washington, Zurich, Brussels, Mexico City
 Regional Offices in: Milan, Turin, Genoa, Padua, Venice, Bologna, Florence, Rome, Bari, Naples, Catania
 Monetary values in U.S. dollars were calculated at the exchange rate of Lit. 839.90 to the U.S. dollar

BANCA POPOLARE DI NOVARA

Head Office: NOVARA, (Italy)

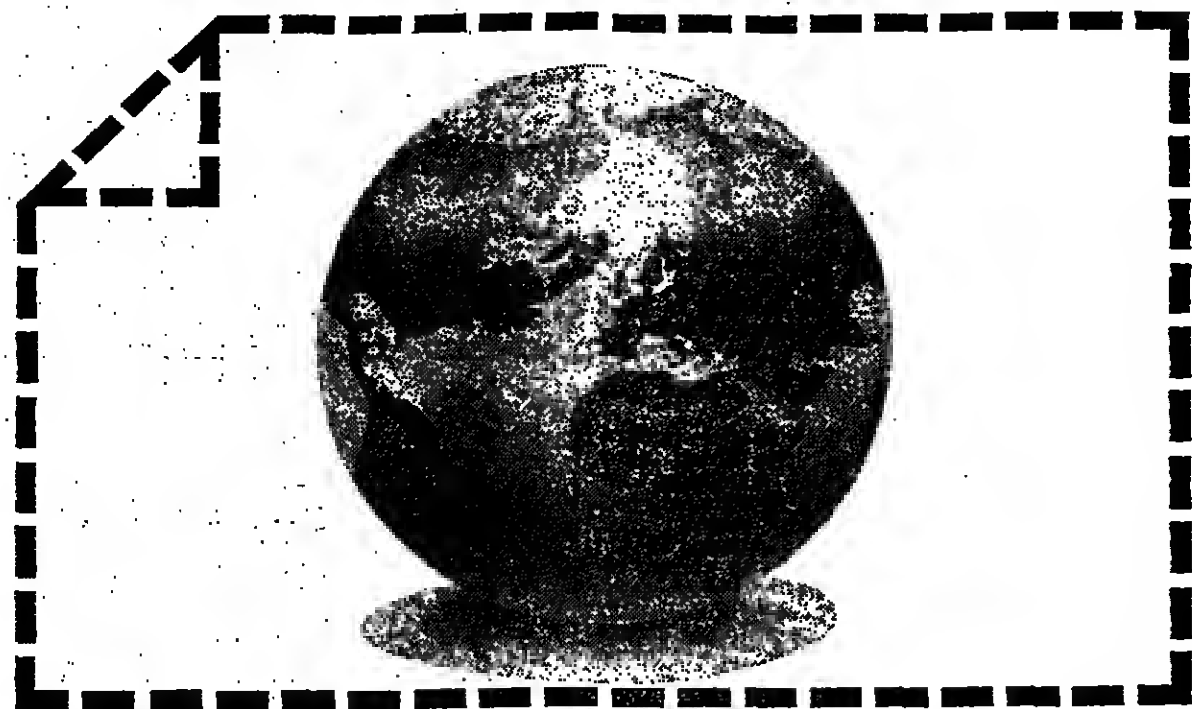
As at 31st December 1978
 Share capital: Lit. 12,338,057,000;
 Reserves and Funds: Lit. 217,967,916,398.

Current, deposit and other accounts over Lit. 6,000 billion.

340 Branches in Italy.
 Representative Offices in Brussels, Caracas, Frankfurt am Main, London, New York, Paris and Zurich.
 Adviser in Moscow.

LONDON REPRESENTATIVE OFFICE
 299 Salisbury House, Finsbury Chase, London EC2M 5QQ
 Telephone: 61-626 0237/8. Telex: 887229 NOVBA G
 Cable: NOVABANCA LONDON EC2

WHERE THERE'S
AN INTERNATIONAL MARKET,
WHERE THE ACTION IS,
THAT'S WHERE WE ARE.
OUR VISITING-CARD



Branches in:
Abu Dhabi -
U.A.E., Cairo,
Chicago, London,
Los Angeles,
New York, São Paulo,
Singapore, Tokyo

Representative offices in:
Ankara, Athens,
Beirut, Belgrade,
Berlin D.D.R.,
Buenos Aires, Cairo,
Caracas,
Frankfurt/Main,
Hong Kong,
Kuala Lumpur,
Madrid, Mexico City,
Moscow, Paris,
Sydney, Tehran,
Toronto, Warsaw.

Associated and allied banks and other participations in:
Africa: Camerouns, Chad, Congo, Gabon, Ivory Coast, Morocco, Senagal, Togo, Tunisia, Zaire.
America: Argentina, Bahamas, Brazil, Canada, Colombia, Mexico, Panama, Paraguay, Peru, Uruguay, USA, Venezuela.
Asia: Hong Kong, Indonesia, Korea, South, Malaysia, Pakistan, Philippines, Singapore, Thailand.
Europe: Belgium, France, Germany (F.R.).

Great Britain, Luxembourg, Monaco, Spain, Switzerland.

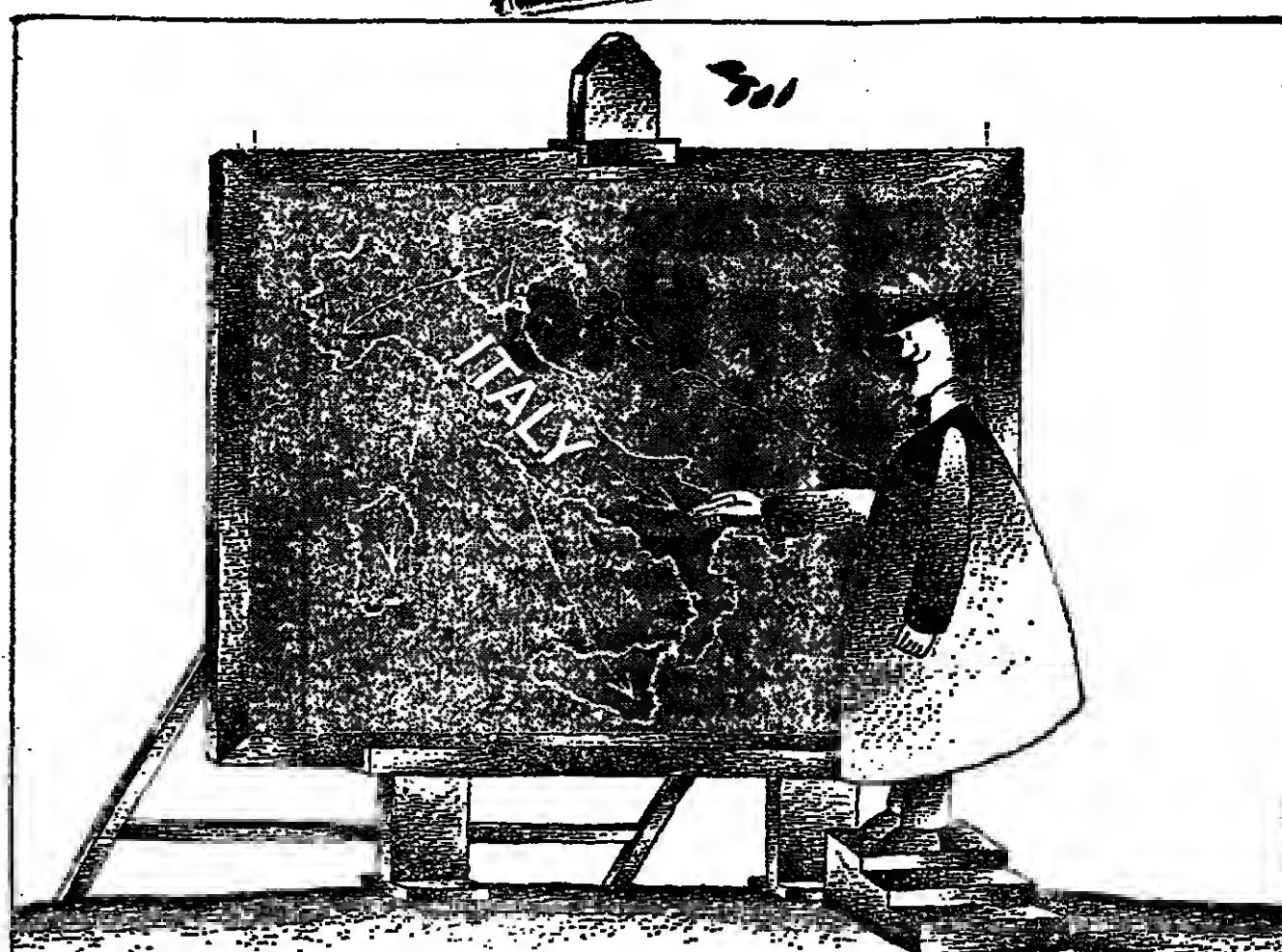


Banca Commerciale Italiana

Head Office: Milan
338 Branches in Italy

CGA

هكذا من العمل



**From here,
we serve you
Italy-wide**

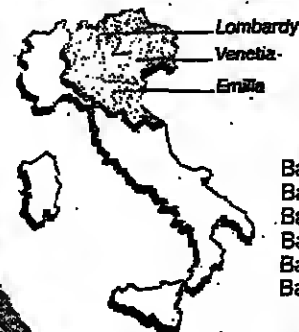
An area that counts in Italy, the North-East, is blanketed by our branch offices. Our organisation operates in all corners of Italy; which also count.

Banca Cattolica del Veneto

**six banks,
an important partner
in those Italian regions,
that count for much.**

330 branches... and behind each counter the organization and the efficiency of six leading popular Banks, which have joined their programs and work in the "GRUPPO NORDEST".
These six Banks, together have not only the size of a big Bank, as regards Customers and Service, but something more, too: the opportunity of being in close relations also with small firms, of being present where there is the real economic life. Lombardia, Venezia, Emilia produce, alone, 37% of Italian output and carry out 48% of Italian Foreign Trade.

GRUPPO NORDEST



Banca Agricola Mantovana
Banca Popolare di Verona
Banca Popolare di Bergamo
Banca Popolare di Modena
Banca Popolare di Sondrio
Banca Popolare di Vicenza

GRUPPO NORDEST:
six Banks and a common work,
at the big enterprises', as well as
the small industries' service.



**Commercial Banking
with Italy?
Try CARIPLO - Milan**



These are CARIPLO's credentials at 31.12.78:

US\$ 22,900,000,000 deposits and funds administered*
(equivalent of 19 thousand billion Italian lire)

+ 26% in respect to 31st December 1977

438 branches 9,000 employees

* Including Mediocredito and Leasing Regionale Lombardo deposits and funds

For further specialist information on Cariplo, contact our head office asking for the free booklet "Cariplo - A Bank in Action".

Representative Offices:
Brussels • Frankfurt • London • New York

CARIPLO Cassa di Risparmio delle Province Lombarde
MILAN • via Monte di Pietà 8 • 20121 Milano-Italy • tel. (02) 88661 • telex 310280/320451 Carpli I

pubblio NUSSO

pubbli

ITALIAN BANKING AND FINANCE IV

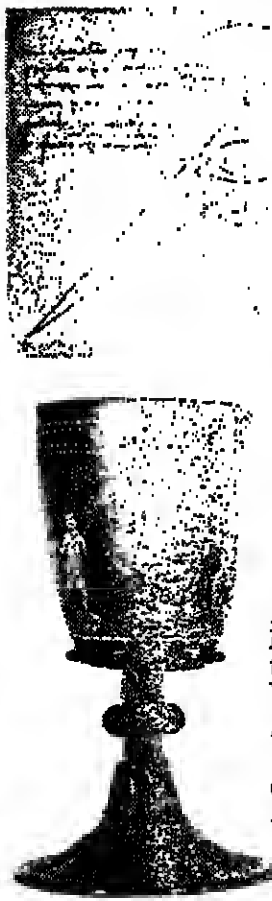
We operate all over the world

In addition to our Offices in Frankfurt, London, New York, Paris, Tehran and Tokyo, we have 1,000 correspondents spanning all the Continents. We are also members of London & Continental Bankers Ltd, whose shareholders have a network of 40,000 agents throughout Europe.



BANCA NAZIONALE DELL'AGRICOLTURA
 Headquarters: Office 25, Gracechurch Str., Room 50, LONDON EC3R 6AN

Genius - an Italian trademark



Description:
 Shows Leonardo da Vinci's design for a flying machine and notes on the importance of flight.

Source: Italy
 To be found at: British Library, Great Russell Street, London

Description:
 A marble of the architect Bramante showing the characteristics of the work of the architect.

Source: Italy
 To be found at: Victoria and Albert Museum, South Kensington, London

Description:
 Fifteenth century glass goblet showing the craftsmanship and perfection of Venetian glass.

Source: Italy
 To be found at: British Museum, Great Russell Street, London

Banca Nazionale del Lavoro

London Branch: 33-35 Cornhill, London EC3V 3QD. Tel: 01-623 4222.
 Head Office: Via Vittorio Veneto, 119, Rome.

Bpm BANCA POPOLARE DI MILANO

Head office
 4 Piazza F. Meda
 Milan

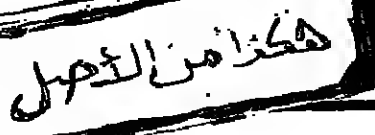
We started banking 1865 in Milan and our activity is still centered here; from here we cover the whole country.

If you decide to start working with us, you will discover many other interesting facts: particularly that we are a reliable, dynamic bank to which you can easily entrust all your foreign trade problems.

Representative offices abroad:
 FRANKFURT AM MAIN
 LONDON
 NEW YORK

HIGHLIGHTS FROM THE LATEST ANNUAL REPORT AS OF DECEMBER 31

(in billions of lire)	1977	1978	%
Total deposits	3.253	4.150	+ 28%
Capital and reserves	161	205	+ 27%
Total assets	6.156	7.390	+ 20%



Moves to revitalise capital market

THE MILAN Bourse has appealed to the European Community to make it possible in practice for Italian investors to buy foreign shares, particularly those of other member countries. For years the Italian stock exchanges, while providing opportunities for frequent flutters by a handful of speculators, have had little relevance to the economic life of the country. As one way of correcting this and revitalising the Milan Bourse, its president, Dr. Giorgio Aloisi de Gaspari, visited Brussels this autumn to ask for EEC intervention to get restrictions on foreign portfolio investment removed. He said recently that he was also taking the matter up with the Bank of Italy.

If an Italian wishes to buy a foreign share or bond, he has to deposit a further 50 per cent of the purchase value in lire in a non-interest bearing account with the Bank of Italy or an authorised bank. This regulation, issued when foreign exchange reserves were dwindling rapidly and defence of the lire was paramount, has effectively stopped legal Italian portfolio investment in foreign quoted companies, which see no purpose in seeking an Italian stock exchange listing. For years the British financial group of companies has been the only foreign company quoted in Milan, where it serves more as a reminder that the Bourse would still be open to companies from abroad rather than as an actively traded share.

Abolished

Now that foreign exchange reserves are high and the lire performing well in the first year of the European Monetary System (EMS), Dr. de Gaspari believes it is time to do away with the 50 per cent restriction. "We have asked the European Commission to have the deposit abolished," he said. "There is now no need for it, no reason for it any more."

The Milan Bourse, though it dominates the nine provincial bourses, is the Cinderella of stock exchanges in developed European countries. Founded in 1808 by the Viceroy Eugene Napoleon, it lists only 164 equities. Between the end of 1974 and 1978 the number of joint stock companies increased from 49,952 to 62,250. Yet its quoted companies fell from 153 to 143. In these times of mounting inflation, expected to rise to a 19 to 20 per cent annual rate by

the end of the year, the need has seldom been felt more strongly for an effective channel for equity investment as a means of preserving capital savings. Yet, though successive Christian Democrat Governments have made repeated promises of radical reform to make the Bourse accessible to the general public, practice has fallen far short of promise.

Steps

Some limited steps have been taken. Last year Sig. Filippo Maria Pandolfi, now the Treasury Minister, introduced an income tax credit on dividends, abolishing the double taxation of company and dividend revenues. The tax on interest from bank deposits was raised from 18 to 20 per cent, reducing the differential with the generally higher tax incidence of dividends. A mercato ristretto, or over the counter market, was also set up in 1978. In Milan it now lists 27 shares, mostly small banks, including Creditwest, a joint venture between Credito Italiano and Britain's National Westminster.

A decree was issued this summer to define the role of Consob, the Government-appointed Bourse supervisory commission, which since its foundation has been the object of widespread criticism. Its image fell into ridicule nearly a year ago when the then Prime Minister, Sig. Giulio Andreotti, appointed a friend, a personality from the cinema and striptease world appropriately named Pizzi (madmen) as one of Consob's commissioners — an action which brought the resignation in protest of the Milan Bourse president, Christian Democrat Senator, Urbano Alerti. Consob however, still sits in Rome, 400 miles out of touch with the Milan Bourse.

Some of the impediments which have condemned Italian stock exchanges to the sidelines have existed for decades and are unlikely to be removed in a few years. The greater part of share trading takes place directly between banks or outside the floors of stock exchanges. Stockbrokers, of whom there are 104 in Milan and in the smaller provincial exchanges—sometimes just one or two—are public servants who technically act as individuals and are not allowed to form partnerships. Nor are they

allowed to hold stock on their own account but must always act on orders of clients, though in practice this regulation has not always been observed.

Milan's insignificance by international standards has been underlined in a comparative study of the size and activities of the EEC stock exchanges made for the Milan stockbrokers executive committee. It observes that the general difficulties in financing enterprises with capital in the Western world are all the more marked in Italy because of a series of technical factors which have brought Italian bourses to a state of chronic crisis. The study lists four:

● The lack of new listings. Companies have shied away from seeking quotations because of the Government's tax discrimination against stock capital and its favouring of concessional credits as well as because of falls in equity prices. (At the beginning of November the Banca Commerciale Italiana general index for Milan, taking 1972 as 100, was in the region of 86.)

● The abnormal development of the bond market because of the exceptional expansion of public debt.

● The failure to internationalise Italian bourses—a failure which Dr. de Gaspari is trying to remedy.

● The instability of equity prices because of bad functioning and organisation of the stock market.

After noting that the first three factors result from national economic policy, the study admits that excessive instability tends to discredit the Bourse. There is no lack of proposals, it comments, for a modern reorganisation of stock markets which could be put into effect relatively quickly. But it is necessary for "the political forces, solicited by initiatives at European Community level, to perceive finally the urgency of taking such steps."

Tables in the study based on EEC data show how Milan trails behind even Copenhagen in the number of companies with listed equities (in 1977 the figures were 155 and 249 respectively), though both pale into insignificance behind the more than 3,000 companies quoted in the UK and Ireland. To give an idea of each stock exchange's importance in the national economy, the study has calculated the total capitalisation of

equities as a percentage of gross national income in 1978. The UK and Irish stock exchanges lead with 33.3, followed by Luxembourg with 28.1, Amsterdam 20.2, the German bourses 12.5, Brussels 11.7, Paris 8.9, Copenhagen 8.6 and Milan only 3.7. Between 1974 and 1978 Milan was the only one in which the total capitalisation of domestic listed equities fell from the equivalent of \$11.7bn to \$9.8bn, though the latter admittedly represents a recovery from \$6.2bn in the

black year of 1977. In fixed interest bonds it is a different story. Thanks to the enormous weight of public sector issues, Milan comes third in 1978 with a total par value equivalent to \$38.1bn, behind the German bourses (\$28.1) and the UK and Ireland (\$18.2), but ahead of France (\$8.1). Italian bonds, however, give a yield well below the inflation rate, and leave unsolved the question of how the investor can preserve his capital.

John Earle



Established 1857
 HEAD OFFICE:
 Via Don Ernesto Ricci, 1
 63023 Fermo (AP)
 Cable address: Carisparmio Fermo
 Telephone: (0734) 35141 (8 lines)
 Telex: 560182 Carfermo
 S.W.I.F.T. code: CRFEIT 3FA
 Reserves Lit. 12,000,000,000
 Deposits Lit. 300,000,000,000
 Member of Society for Worldwide Interbank Financial
 Telecommunications s.c. (S.W.I.F.T.)
 IN THE MIDDLE OF THE ITALIAN FOOTWEAR AREA
 All Domestic and Foreign Banking Transactions

Experts studying law reform

AT THE end of October Sig. Filippo Maria Pandolfi, the Treasury Minister, took a first step towards the reform of banking legislation by setting up a commission of nine judicial experts charged with drawing up proposals to submit to Parliament. It was an objective he had pursued for some time. Other countries, as he told the annual meeting of the Italian Banking Association last July, had since the war studied and revised their banking structures—Britain with its Radcliffe Committee, the U.S. with its Commission on Money and Credit, and France, Belgium and Canada with comparable

initiatives. But Italy had remained outside this process. Italian banking is in fact still regulated by a law of 1936, with certain amendments made after the war. Considering that it was formulated by a Fascist government to meet the very different social conditions between the two world wars, it has stood the test of time well; one reason for this is the strong role assigned to the central bank to guard against a repetition of the banking failures of the Great Depression. There is no pressure for the law's abrogation or radical reform. But inevitably it is outmoded in some respects.

For instance, the penalty for a commercial bank which fails to comply with central bank directives in matters such as limits on credit expansion is as little as L5,000, or for particularly serious cases a maximum of L100,000 (Article 87)—the equivalent of about £3 and 250 respectively. This historical curiosity results of course from the fact that these fines were drawn up when there were 90 and not 1,700 lire to the pound, which itself was then worth many more times than today. The central bank has to think of other ways of bringing offenders to heel.

But such curiosities could still have been tolerated had not the need for reform been brought to a head by the political assault on the Bank of Italy last spring. After the central bank's inspectors had uncovered irregularities in certain banks with Christian Democrat connections, a magistrate started legal proceedings against the then Governor, Sig. Paolo Baffi and the Deputy Director General, Sig. Mario Sarcinelli. Sig. Baffi also had his passport temporarily withdrawn and Sig. Sarcinelli was jailed for 12 days. The magistrate subsequently told a Rome newspaper that Sig. Sarcinelli had ordered inspections in Christian Democrat strongholds and he "hoped Sarcinelli would learn the lesson."

The mud thrown has inevitably affected the staff at the central bank, one of the few credit institutions exposed towards

institutions left in the country with a reputation for competence, integrity, and independence of the political power. The bank's inspection service, which monitors banking activities, has slowed down. This autumn Bank of Italy executives went on strike for the first time. What Sig. Baffi called "the obscure design" against the bank has not been defeated.

The legal point at issue was a clash between Article 10 of the Banking Law and Article 2 of the Penal Code. Sig. Baffi and Sig. Sarcinelli were charged with not reporting to the judicial authorities the results of an inspection stated to have come across irregularities in the use put by the chemical company Societa Italiana Resine (Sir) of Government-subsidised credits lent by the Credito Industriale Sardo, a public medium-term credit institute.

OVER 2600,000 MILLION ITALIAN LIRE IN DEPOSITS

and a network of 113 branches located in the provinces of Bergamo, Brescia, Cremona, Mantova, Milano, Pavia.



Banca Provinciale Lombarda
 Bergamo - Via Cassanese, 4 - Tel. 035-394.111

BANCA TOSCANA FLORENCE

Capital and Reserves
 Lire 166,503,309,523
 Established 1904
 Customers' deposits over
 3,500 billion Lire
 Correspondents
 throughout the world

CONTINUED ON NEXT PAGE

Money rates hit by rising inflation

THE STORM clouds of inflation and a massive public sector deficit have once again gathered over the Italian money market. Inflation in the last couple of months has been running at a monthly rate of over 2 per cent, pushing the annual rate to around 18 per cent, while efforts to control Italy's colossal public sector borrowing requirement continue to meet only scanty success.

The need to finance a public sector deficit which threatens to reach 1.42,000bn next year,

13.7 per cent of Gross Domestic Product, has forced the Bank of Italy to impose strict curbs on ordinary bank credit. And high inflation has pushed interest rates up, shattering the illusions that had sent share prices up in the summer on the Milan Stock Exchange.

But in spite of the attempts of commercial operators to breathe more life into them, Italy's rather pallid money markets remain unsophisticated by comparison with those in other major industrial countries. The interbank money

market has dwindled in importance in the past year, in the face of competition from an ever-growing mass of short-term Treasury Bills. Longer-term bond issues are currently out of the market while potential borrowers wait for interest rate prospects to become clearer, and a nascent market for bankers' acceptances is still only in its infancy.

After a period of calm this summer, during which interest rates steadied at slightly lower levels at the short end of the market, restoring a more normal relationship between short and long-term yield, the market was jolted early in October by a 1.5 per cent rise in the official discount rate and a corresponding increase in banks' lending rates.

The increase in the discount rate, the first for more than a year, was Italy's somewhat belated response to climbing interest rates abroad, particularly in the U.S. It was made necessary by the sharp upsurge in inflation, a deteriorating balance of payments and fears that high borrowing costs abroad could prompt commercial operators to pay off their debts in dollars, with a consequent drop in the Bank of Italy's reserves.

The hike in the discount rate to 12 per cent was followed almost immediately by a 1.5 per cent increase in commercial banks' prime lending rates to 16.5 per cent, and by smaller increases in yields on the Treasury Bill market. Share prices tumbled on the Milan Bourse and hoeds came under heavy selling pressure, forcing the Bank of Italy to intervene to defend them.

Ceiling

Later in October, the Central Bank announced new restrictions on bank lending, imposing a ceiling on the amount of money banks can lend to their clients between now and next July. The new regulations provided some relief for small companies, by extending the ceiling on loans which are exempt from growth restrictions to 1,100m from 1,000m. But they caught many banks off balance by taking as a new base for growth calculations the level of banks' lending in May this year, when credit demand in Lira was not particularly strong.

This has meant that some banks which had not fully used their lending quotas in that month have now found themselves left with a smaller quota for the next ten months, and there has been a consequent reshuffle in the market shares of individual banks.

The credit squeeze is expected to be particularly tight this winter, when the main inflationary impact of recent oil price

increases will be felt. Credit conditions could become easier in spring, when the economy is expected to pass through a period of slackness. But in the first seven months of next year, credit growth will still be limited to an annual rate of 13 per cent, several points below the expected inflation rate.

These contrasting influences of rising inflation and high banking liquidity have led to a somewhat curious situation on the money market. The lending restrictions have channelled liquidity into investment in Treasury issues, and Treasury Bill yields and bank deposit rates.

The Bank of Italy's careful management of the market has so far effectively prevented the panic spiral in interest rates which occurred during the crisis year of 1976. At the routine monthly Treasury Bill auction in late October, yields on six months' Treasury Bills were set at 12.57 per cent, 1.2 per cent above their level at the previous monthly auction before the 1.5 per cent bank rate increase.

Yields on 12 months' Bills rose by an even smaller amount, 0.6 per cent, to 12.93 per cent. The result has been a flattening out of the yield curve, which over the summer had been steepening back to a more normal gradient, with the Bank of Italy allowing a proportionately larger increase in short-term yields than in longer-term yields.

But with lira interest rates to some extent insulated from what is happening abroad by the credit curbs which force operators in need of extra credit to borrow in foreign currency, some bankers are beginning to wonder whether the Bank of Italy will not have to take further disciplinary measures to oblige banks to invest more of their surplus liquidity in longer-term bond issues. New issues of bonds by non-state borrowers have slowed down while the market waits for a clearer interest rate trend to develop.

The growing importance of the Treasury Bill market, with more than 48,000 bn-worth of Bills now in circulation, has also had a negative impact on the interbank market. A leading Milan money broker, Euro-mobiliare, gave clear recognition to this fact earlier this year by suspending indefinitely its publication of quotes for the 48-hours call money rate.

All this hampered the development of a dynamic money market, long one of the most cherished goals of the Bank of Italy. The Central Bank has itself contributed to a more flexible market in the last few years by extending the range of its own intervention on the secondary Treasury Bill market. After adopting a more flexible approach to the sale of Bills

outside the routine monthly auctions last year, the Central Bank started this summer for the first time to buy bills back from operators in need of liquidity, although only at penalty rates with severe limitations as to the residual life of Bills it would accept.

The Central Bank plans shortly to introduce a further innovation to the Italian market: repurchase agreements under which it will buy Bills from banks needing liquidity for a given period, selling them back to the holder later at a price agreed on at the time of the original contract.

Modest

Progress has also been made in the development of a market for bankers' acceptances, which have been used as a funding instrument by a number of major industrial borrowers, including Fiat, Olivetti and Italsider. Since this market got off the ground a little over one year ago, the number of bankers' acceptances in circulation has risen to about L500bn. But this is still a modest figure compared with total banking credit of about L90,000bn, and non-banking investors have as yet barely ventured on to this market.

Continued hopes for development of Italian money markets are now being pinned on attempts to speed up the flow information and encourage more lively secondary market trading. Both the Treasury Bill market and the market for bankers' acceptances could benefit from more active dealings, and the Bank of Italy has stated quite clearly its intention of encouraging the use of short-term money instruments to finance industry, as well as the State.

To help provide a more open marketplace, the Central Bank is backing plans to start operation early next year of a computerised market data service, to be made available to contributors and recipients through the Reuters monitoring system which already serves the Foreign Exchange Market.

The Bank of Italy will itself be inserting data on its own conditions for sale and repurchase of Treasury Bills. A number of other market-makers are also expected to contribute data on prices and yields, and the service will cover both Treasury Bills and longer term Treasury issues, bankers' acceptances, interbank money deposits and bonds not quoted on the Milan Stock Exchange. At the very least, this new system should bring an end to the different yields quoted in different parts of Italy for Treasury Bills of the same maturity.

By a Correspondent

هكذا من العمل

Our name tells you a lot. The Italian International Bank, London.

If you want to make the most of international financial markets for Italian business, a natural choice is the Italian International Bank based in London.

We are an international consortium bank set up by four eminent Italian banks with a history as long as banking itself. Banco di Napoli, Banco di Sicilia, Istituto Bancario San Paolo di Torino and Monte dei Paschi de Siena.

From our London base we are very much a part of the international banking scene and so are able to make the most of the market's

resources. But our Italian connections enable us to understand and satisfy the needs of Italian business particularly well.

Apart from our strength in Lire Exchange and other Eurocurrencies, we offer the following services to companies in Italy.

- (1) Providing direct finance for Italian industry in Eurocurrency.
- (2) Financing Italian Exports in Eurocurrencies.
- (3) Providing medium term syndicated loans through the London Market.



Italian International Bank Ltd.,
P & O Building,
Leadenhall Street, London EC3V 4PT.
Tel: 01-623 8700 Telex: 885370
the british bank
with the italian accent.



Established 1845

ALL DOMESTIC AND FOREIGN BANKING TRANSACTIONS

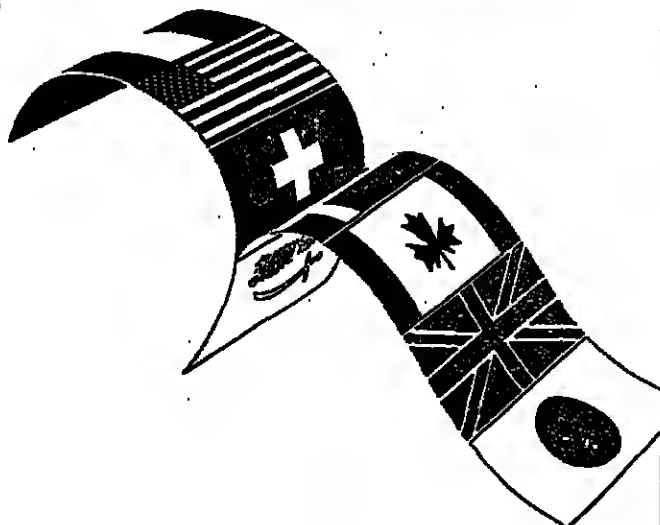
HEAD OFFICE 41100 MODENA
TELEX 510616 CRMO I
TELEX FOREIGN DEPT. 511502 CAMEST I
TELEGRAPHIC ADDRESS: CASSA RISPARMIO
SWIFT ADDRESS: CAMO IT 2M

18 BRANCHES AND 7 CITY AGENCIES

CAPITAL AND RESERVES OVER Lit. 32,000,000,000
DEPOSITS OVER Lit. 700,000,000,000

CORRESPONDENTS THROUGHOUT THE WORLD

Banco Lariano



THE CONNECTION THAT COUNTS. BETWEEN LOMBARDY AND THE REST OF THE WORLD.



Established 1496
Member of Italian Savings Banks Association

FOREIGN SERVICES

- * AUTHORIZED BANK FOR FOREIGN SERVICES («BANCA AGENTE»)
- * ASSOCIATED TO S.W.I.F.T. (CODE BMMI IT MM)
- * WORLD-WIDE BANKING SERVICE
- * CORRESPONDENTS THROUGHOUT THE WORLD

HEAD OFFICE

MILANO - Via Monte di Pietà 7
P.O. Box 1898
telephone 88861
telegrams: Bankmont
telex: 310568 BMMDIR (general)
321044 BMMCAM
(foreign exchange)

BRANCHES

MILANO - Main Branch - 16 Town Agencies
CINISELLO BALSAMO (MI) - CARUGATE (MI)
MONZA (Milano) - MANTOVA - CREMONA

Reform

CONTINUED FROM PREVIOUS PAGE

Sir, and that the Bank of Italy maintained the magistrates already knew about the allegations of irregularities in lending by Credito Industriale Sardo to Sir. But the essence was the inconsistency between the Banking Law and the Penal Code.

Sig. Barbi feels it must be made clear that the Bank of Italy's role is not, as he explained in a recent newspaper interview, to act as "agents of the investigative police but as the authority responsible for guaranteeing the equilibrium of the financial market." The need for Parliamentary action to clarify Article 10 has been echoed by others, including Sig. Pandolfi and the President of the Banking Association, Sig. Silvio Golzio. It will be a first priority for the commission.

The amendment of existing legislation in itself is unlikely to guarantee against the emergence of further banking scandals, of which the collapse of the Sinaoia empire and the unorthodox lending practices at Italcasse (the central institute of savings banks) are merely two prominent examples in a series. That can only come with a change of mentality in public life and when the less reputable members of the mid school of politicians are eased out of power.

But it should provide greater certainty under which to operate. Another issue requiring clarification is in ensuring what Sig. Golzio has called "full operative parity among banks. Among the leading banks are nine in the public sector—the three "Banche di Interesse Nazionale" owned by the parastatal Istituto per la Ricostruzione Industriale (Banca Commerciale Italiana, Credito Italiano and Banco di Roma) and six "Istituti di Credito di Diritto Pubblico" (Banca Nazionale del Lavoro, Banco di Napoli, Banco di Sicilia, Banco di Sardegna, Monte dei Paschi di Siena and Istituto Bancario San Paolo di Torino).

At present a mistaken lending decision by an official of one of these banks could expose him

as a public servant to a charge of embezzlement of public funds, while a colleague in a private sector bank could get away with a minor penalty or possibly merely a reprimand for an error of judgment. The commission is expected to study the removal of this anomaly.

Rigid

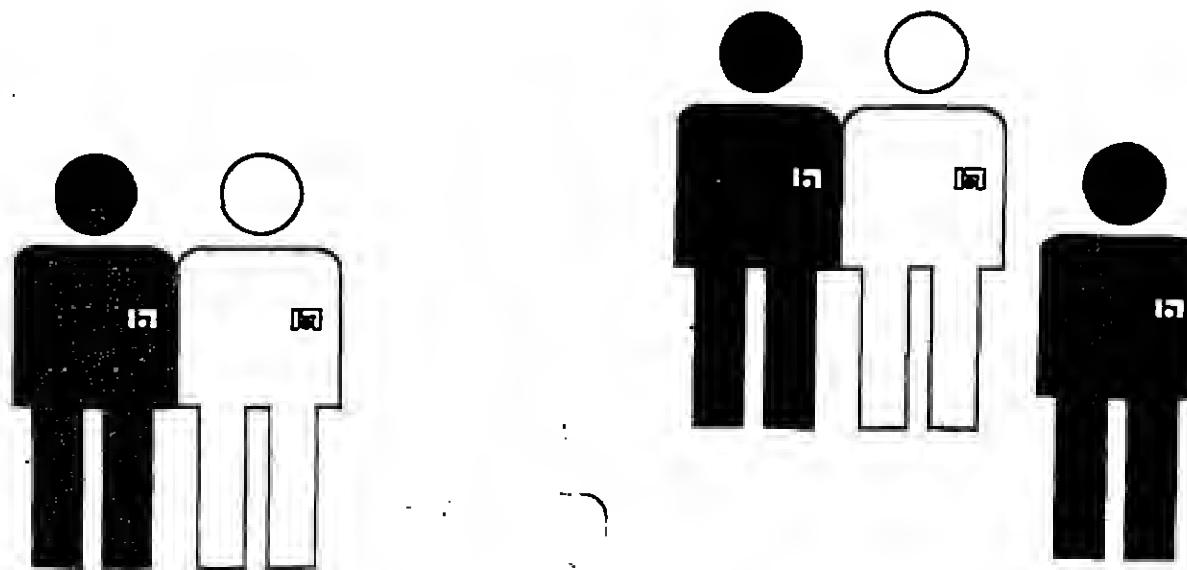
A third need for clarification concerns what Sig. Pandolfi has called the demarcation between banks and credit institutes. The 1936 law instituted a rigid division between banks, allowed to engage in short-term lending, and credit institutes, for medium and long-term operations. The distinction has become blurred, not only because credit institutes are often controlled by banks. Rather than simply abolish it, Sig. Pandolfi would like to see rationalisation of the parameters correlating short with medium-term lending.

The need for reorganisation is also recognised in sectors such as the structure of the savings banks and the co-operative "popolar" banks, in the protection of depositors in the event of banking liquidations and in the more even territorial distribution of banks' areas of operation. Bankers themselves have frequently complained about the Foreign Exchange Law 159 of 1976, which requires them to check the accuracy of value declarations in export/import invoices, as if they were foreign trade experts. The foreign exchange regulations, moreover, are a maze of what Sig. Golzio has described as numerous "doubts and perplexities."

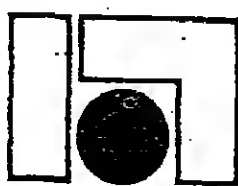
Foreign businessmen of various countries have more than once made representations about them to the Italian Government through their chambers of commerce. Such restrictions, besides being confusing, are all the more irksome to businessmen when countries like Britain have abolished foreign exchange controls.

John Earle

WE ARE WHERE YOU WANT US



if your work needs quick and expert assistance in any part of the world, apply to us
we are where you want us

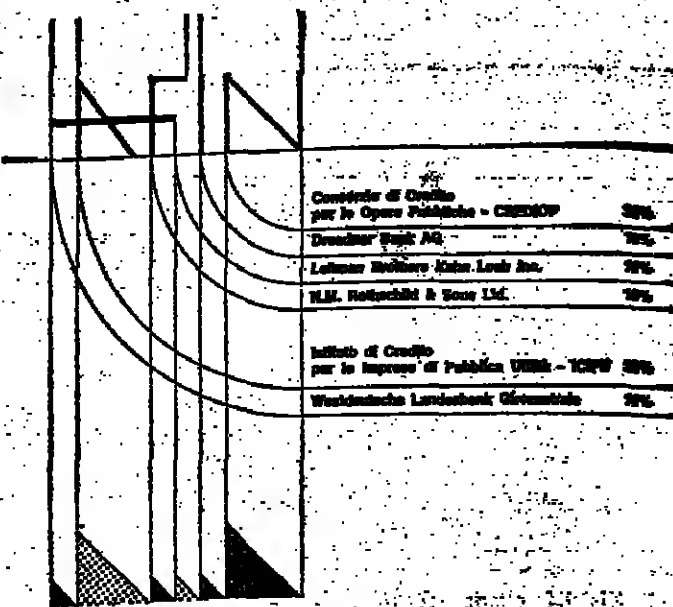


Banco Ambrosiano

MILAN - VIA CLERICI, 2 - TX 310204 AMBRO-I

ITALIAN BANKING AND FINANCE VI

Extensive network in the regions



Banca Popolare di Abbiategrosso
 Limited Liability Co-operative Society - Established in 1920
 Company registered under n. 2532
 Total Assets as at 31 December 1978: L. 85.393.806.250

HEAD OFFICE, MANAGEMENT AND FOREIGN OFFICE: ABBIATEGRASSO

MAIN BRANCH OFFICE IN MILAN

13 BRANCHES IN THE PROVINCE OF MILAN

linked up with the Swift network:
 real time international payments system

a big savings Bank operating in North-Eastern Italy offering full assistance in national and international banking business

CASSA DI RISPARMIO DI TRIESTE

P.O. BOX 481 CENTRO - 34121 TRIESTE - TEL. 73.86 - TELEX 460403 ESTCARI

IN A country whose economy is as fragmented as Italy's, it is no great surprise to find that there are more than 1,000 banks and other types of credit institutions. Some of them are big banks of national and international dimensions, like Banca Nazionale del Lavoro, Credito Italiano or Banca Commerciale Italiana. State-owned or State-controlled and all with a major presence in Italy or abroad.

But the great bulk of Italy's 1,071 credit institutions are small concerns of regional or local importance, playing a quiet but fundamental role in financing the small businesses which make up the backbone of the Italian economy.

Some of them, like Banca del Monte di Bologna e Ravenna, which was founded in 1473, are as old as banking itself. Others are of more recent origin, like the 166 co-operative banks set up for the most part in the last century to finance local enterprise. The largest category by far are the local *Casse Rurali ed Artigiane*, many of them with only one branch, set up in the last 100 years to use local savings for extending credit to farmers and businesses. Despite

their lack of size, they are a dynamic force in the Italian financial scene.

In a geographically decentralised economy like Italy's, local finance means local power, and the top posts of Italy's major regional banks have long had an overtly political connotation. Some of the big State-owned banks, like Banco di Sicilia or Banco di Napoli, have names suggesting regional links which belie their national and international importance. But banks like these, and even more so the medium-term lending institutions such as Iseimer which finances industrial development in Southern Italy, or Credito Industriale Sardo, which does the same for Sardinia, play a major role in the economic development of their main regional sphere of influence.

Some of these banks, in particular Credito Industriale Sardo, have been at the centre of national controversy in the past year over the role they played in the generous State financing earlier this decade of the financially troubled SIR chemicals group, whose Sardinian chemical plants were for months in a state of crisis and near-collapse. The SIR financing case, which has indirectly implicated senior banking officials at the Banks of Italy and other major Italian banks, appears with hindsight as a case of regional financing gone wrong. But although the enormous funds involved in this unhappy case history of industrial financing make the SIR saga one of national importance, it would be unfair to generalise from this example about the state of the rest of regional financing in Italy.

Among the State-owned ordinary banks, as opposed to medium-term lending institutions, Banco di Sardegna is the one with the most clearly defined regional character. Founded only 26 years ago as the successor to a much older agricultural financing institution, this youngest of the six *Istituti di Diritto Pubblico* has more than 50 branches in Sardinia and only three offices on the mainland — in Rome, Genoa and Milan. Banco di

Sardegna concentrates its business on firms with a commercial connection in Sardinia, where it accounts for around half of the island's banking business.

In a list of the number of bank branches operating in each region, Sardinia, still a predominantly rural economy with little in the way of industry, lags well behind the more developed regions of Northern Italy. Not surprisingly, the industrial region of Lombardy, whose capital, Milan, is also the capital of Italian banking, comes first, with 2,197 bank branches, followed by Emilia-Romagna with 1,218. Bottom of the league, and just below Sardinia, come the relatively poor and backward southern regions of Molise, with 45 bank branches, and Basilicata, with 118, both of them smaller in geographical area than Sardinia.

Italian savings banks, but representative offices in three foreign countries — Britain, the U.S. and West Germany — where it has one each in Frankfurt and Stuttgart.

But restrictions imposed by the Bank of Italy on the opening of new bank branches and the territorial limits set on the banking activity of smaller regional banks have limited the strengthening of banking business in Italy. In many cases banks wishing to expand their geographical range have had to resort to takeovers in order to gain the middle they wished to exert in other areas. This was the case earlier this year for Monte dei Paschi di Siena, the State-owned bank whose original foundation dates back to 1472, which recently bought from industrialist Carlo Pesenti's *Italcementi* group the Milan-based *Credito Commerciale*, with its 79 branches in the industrial Lombardy region.

AFIN S.p.A.
 Agenzia internazionale per Finanziamenti ed Investimenti

- arranges export financing for Italian companies on the international markets
- arranges eurocurrency loans to Italian companies
- organizes medium-term financing on the domestic market

00187 Roma, Piazza Barberini 12
 Tel. 460729-464844 Telex

BANCA NAZIONALE DELLE COMUNICAZIONI
 A PUBLIC BODY
 Head Office - Rome, Via Abruzzi, 10
 TELEX 610487 BNCRM I

ALL BANKING TRANSACTIONS
 STOCK AND FOREIGN EXCHANGE

Insurance: Life - Capitalization
 Accident - Third-party car insurance

Branches:
 Torino • Milano • Mestre • Venezia • Verona
 Trieste • Genova • Bologna • Parma
 Firenze • Ancona • Roma • Napoli • Bari
 Reggio Calabria • Palermo • Cagliari

By a Correspondent

U.B.A.F.
 An Arab and International Association in Banking and Finance.

France
 UNION DE BANQUES ARABES ET FRANÇAISES - U.B.A.F.
 Branches: Tokyo - Bahrain - Seoul

London
 UBAF BANK LIMITED

Rome - Milan
 UBAAE ARAB ITALIAN BANK S.p.A.

Luxembourg/Frankfurt
 UNION DE BANQUES ARABES ET EUROPEENNES S.A. - U.B.A.E.

Hong Kong
 UBAN-ARAB JAPANESE FINANCE LIMITED

New York
 UBAF ARAB AMERICAN BANK

London
 UBAF FINANCIAL SERVICES LIMITED

General Representative Offices for the Middle East: Beirut & Cairo

Major banking and financial institutions from all the twenty Arab countries and

France - United Kingdom - Italy
 West Germany - Japan - United States of America
 are shareholders in one or more of the seven associated but independent companies.

Growing foreign contingent

DURING THE past five years there has been a small boom among foreign banks in Italy. Since the recovery of the Italian economy after the 1976 lira crisis an increasing number of leading foreign banks have turned their attention to Italy, where some 30 international credit institutes are now involved in a variety of operations. Six foreign banks control majority stakes in Italian-based credit institutes, with more than 100 counters in the country. Two bold minority stakes and 22 other international banks operate in Italy through authorised subsidiaries.

In large measure the operations of foreign banks in Italy are geared to servicing the branch offices and subsidiaries of the large international industrial groups with interests in the country, as well as some major Italian private and State enterprises like Fiat and Olivetti in the private sector and the Istituto per la Ricostruzione Industriale (IRI) subsidiaries in the State sector.

By dealing essentially with multinational customers and multinationals and the large Italian international groups, the foreign banks tend to have the cream of Italian business. At the same time during the last two years at least, they have concentrated on wholesale business, enjoying generous interest rate spreads in a relatively liquid market.

Driving

Indeed, the U.S. credit institutions, which effectively have been the driving force behind the recent boom of foreign banks in Italy, have played a major contribution in developing the domestic interbank market and helping to modernise the Italian banking system with the introduction of bankers' acceptances and a series of other operations common in international banking.

With the elimination of the so-called "Italian risk" and the liquidity of the Eurodollar market, Italian concerns have been able to turn increasingly to the international markets, raising medium and long-term loans at attractive interest rates. In large measure, these loans have been directed either to consolidate company balance sheets or for specific ventures like the construction of a gas pipeline from Algeria to Italy

by the Italian State hydrocarbons group, Ente Nazionale Idrocarburi (ENI). In this sector the foreign banks have also made a major contribution in organising and putting together lending consortia and helping Italy's return into the Euro market.

Foreign banks today account for about 1 per cent of the overall business of credit institutes in Italy, and in a sense they have helped stimulate the foreign operations of Italian domestic banks. While the growth of Italian banks abroad has not matched the development of foreign banks in Italy in recent years, seven leading Italian credit institutes now have branches in 14 countries with operations totalling some L12,000bn a year, or about 10 per cent of their parent company's net assets.

However, in view of the more limited margins on the international market, the net profits of Italian banks abroad tend to be lower than in Italy. Moreover, according to Sig. Neri Nesli, chairman of Banca Nazionale del Lavoro, Italy's largest bank in terms of assets, Italian banks abroad could be strengthened by increasing their capital assets and the adoption of less restrictive policies.

Both Italian and foreign banks operating in Italy have been particularly active in foreign exchange loan operations since these do not fall under the Bank of Italy's restrictions on domestic credit expansion. In the wake of the country's improved external exchange position, with a remarkable overall balance of payments surplus of some L7,000bn last year and an expected if somewhat lower surplus this year, the monetary authorities have gradually eased a whole series of restrictive measures introduced following the 1976 lira crisis.

Together with the ceilings on lira loans to domestic customers, Italian banks in 1978 were pushed into additional foreign operations following the regulations obliging importers to finance all advance payments for imports in foreign exchange, and a further requirement, now abolished, that 50 per cent of credits arising from delayed payments on exports should be in foreign exchange.

There was also a further attraction to turn to foreign operations, despite the narrower margins than on the domestic

market, because of the much lower interest rates applicable on foreign funding. All this led to a market increase of the foreign indebtedness of Italian banks, which rose steadily from the depressed levels of the days of the 1976 lira crisis.

However, in recent weeks the situation has been changing. The general rise in international rates, particularly in respect of the dollar, has been putting renewed pressure on the Italian currency by encouraging speculation and capital outflows. Indeed the relatively lower Italian interest rates, which in the case of the central bank's discount rate and of the commercial banks' lending rate to prime borrowers had remained unchanged for some 12 months, has inevitably encouraged Italian operators to clear their short-term debts, while encouraging at the same time further capital outflows towards higher yields.

Increase

At a time of growing anxiety over accelerating inflation, a deterioration in terms of trade and pressure on the balance of payments current account, the monetary authorities decided last month to increase the key central bank's discount rate by one and a half points to 12 per cent. This was subsequently followed by a general increase in Italian money market rates and a one and a half point increase to 16.5 per cent in the commercial banks' prime rate.

In September alone the Italian commercial banks reduced their foreign indebtedness significantly, with a drain of some L110bn in net official reserves. To encourage Italian banks to turn again to the foreign markets, the monetary authorities have now also renewed domestic credit ceilings, which are effectively lower than the previous ceilings. The increase in the total credit in Lira offered by the banking system has now been limited to 16 per cent by the end of December 1979 and 13 per cent by the end of July 1980, compared to 19 per cent for the 12-month period ending August 1979.

With the generally uncertain prospects for the Italian economy, further domestic monetary curbs are now expected to be introduced.

Paul Betts

MONTE DEI PASCHI DI SIENA
 Bank founded 1472
 the Bank 507 years young

Representative Offices in
 Frankfurt-Main, London, New York, Sao Paulo, Singapore, Tokyo

YOUR BANKERS IN VALTELLINA (ITALY)

BANCA PICCOLO CREDITO VALTELLINESE

MAIN OFFICE IN SONDRIO
 Tel. 218221 - Telex: 312247 CREVES I
 Representative office in MILAN
 Tel. 871808 - Telex: 330879 CREVAM I

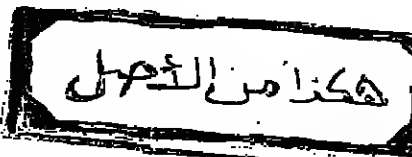
FOREIGN DEPARTMENT
 Vicolo Barberini, 35 - 00186 ROME
 Tel.: 67071
 Telex: 611045 CREROM
 Telegrams: CARISPARMIO ROMA
 Codes: Peterson's 3rd and 4th Editions

ALL BANKING TRANSACTIONS

CR

AT YOUR SERVICE WHERE YOU LIVE AND WORK

CASSA DI RISPARMIO DI ROMA



NEW YORK

Table of New York stock market data including High, Low, Stock, and Nov. 15 prices for various companies like IBM, AT&T, and General Electric.

INDICES

Table of stock market indices including Dow Jones Industrial Average, S&P 500, and various regional indices.

1979

Table of 1979 stock market data for various international companies, including those from Australia, Belgium, and Germany.

INDICES

Table of stock market indices for various countries including Australia, Belgium, Germany, and Hong Kong.

1979

Table of 1979 stock market data for various international companies, including those from Canada, France, and the Netherlands.

INDICES

Table of stock market indices for various countries including Canada, France, Germany, and the Netherlands.

CANADA

Table of Canadian stock market data including High, Low, Stock, and Nov. 15 prices for companies like Alcan and Inco.

INDICES

Table of stock market indices for Canada.

HOLLAND

Table of Dutch stock market data including High, Low, Stock, and Nov. 15 prices for companies like Shell and Unilever.

INDICES

Table of stock market indices for the Netherlands.

JAPAN

Table of Japanese stock market data including High, Low, Stock, and Nov. 15 prices for companies like Toyota and Nissan.

INDICES

Table of stock market indices for Japan.

Additional market news, including a section on 'Plaque marks first yard HQ' and 'Brazil and Spain Prices: Page 20'.

INTL. COMPANIES and FINANCE

PENDING DIVIDENDS

JAPANESE SHIPPING COMPANIES

Sharp recovery in first-half profits

BY YOKO SHIBATA IN TOKYO

JAPAN'S five major shipping companies, Nippon Yusen, Mitsui OSK Lines, Kawasaki Kisen, Yamashita-Shinmoku Steamship and Japan Line all showed rapid recoveries in earnings for the first half of the year. The improvement was due to a recovery in the volume of export shipments and higher dollar-based freight income resulting from the depreciation of the yen against the dollar.

with the operating profits of ¥742m, compared with an operating deficit of ¥2,644m a year ago, thanks to a recovery in the tramp and tanker markets. Net profits amounted to ¥293m, against a net deficit of ¥795m a year ago, on sales of ¥129,411m, up 14.6 per cent over the same period of the previous year. For the full fiscal year ending next March, Kawasaki Kisen expects operating profits of ¥1,381m, against the previous year's operating deficit of ¥2,381m. Its net profits are expected to reach ¥490m, up 27.8 per cent on sales of ¥238,020m, up 17.9 per cent over fiscal 1978.

Linde expects increase in sales

BY KEVIN DONE IN FRANKFURT

THE WEST GERMAN engineering concern, Linde, is expecting sales to increase by 10 per cent this year compared with 1978. Order books after the first nine months are standing 17.5 per cent above last year's level.

The company's main activity is the manufacture of mechanical equipment such as fork-lift trucks, and orders in this sector grew by 17.6 per cent in the first nine months of the year, while sales increased by 14.6 per cent to DM\$91.4m.

Clal Industries well ahead at halfway stage

By L. Daniel in Tel Aviv

CLAL INDUSTRIES, the industrial division of Clal, Israel's largest investment company, made net profits of L\$354m (about \$8m) for the first half of the current fiscal year.

Alba signs \$70m credit deal

BY MARY FRINGS IN BAHRAIN

A \$70m LOAN agreement was signed in Bahrain last week between a group of 17 banks and Aluminium Bahrain (Alba). It is to part-finance Alba's \$120m expansion project, which will boost production capacity from 120,000 to 165,000 tonnes a year.

The loan is repayable over 10 years, and includes a three-and-a-half-year grace period. Interest will be at a rate of 10 per cent over the Bahrain Interbank Offered Rate for the first five years, and 12 per cent thereafter.

U.S. bank opens in Portugal

By Jimmy Burns in Lisbon

MANUFACTURERS Hanover Trust Company, the U.S. bank, has opened a representative office in Lisbon, the second foreign bank to do so since the 1974 revolution.

CURRENCIES, MONEY and GOLD

Forward sterling weakened on Thursday following the rise in Bank of England Minimum Lending Rate and demand for the pound in the spot market. Selling of the pound forward and a rise in Eurosterling interest rates increased sterling's discount against the dollar.

Under these circumstances movements in forward currency rates were largely the result of changes in interest rates. During the course of the week three-month Eurosterling advanced from 1 per cent below the corresponding Eurodollar rate to 2 per cent higher.

Table with columns for Gold Bullion (fine ounce) and Gold Coins, listing prices for various countries like USA, Canada, etc.

Table titled 'OTHER MARKETS' showing exchange rates for various currencies like Australian Dollar, Brazilian Cruzeiro, etc.

Table titled 'THE DOLLAR SPOT AND FORWARD' showing spot and forward rates for various countries like UK, Ireland, Canada, etc.

Table titled 'THE POUND SPOT AND FORWARD' showing spot and forward rates for various countries like Norway, Sweden, etc.

Table titled 'EURO-CURRENCY INTEREST RATES' showing interest rates for various currencies like Sterling, U.S. Dollar, etc.

Table titled 'CURRENCY RATES' showing exchange rates for various currencies like Sterling, U.S. Dollar, etc.

Table titled 'LONDON MONEY RATES' showing rates for various financial instruments like Overnight, 3 days notice, etc.

Table titled 'FIXED INTEREST STOCKS' showing prices and yields for various stocks like Bristol Waterworks, etc.

For the convenience of readers the dates when some of the more important company dividend statements may be expected in the next few weeks are given in the following table.

Table of Pending Dividends with columns for Company Name, Date, Announcement last year, and Dividend details.

LOCAL AUTHORITY BOND TABLE

Table of Local Authority Bonds with columns for Authority, Annual Interest, Life, and other details.

BASE LENDING RATES

Table of Base Lending Rates for various banks and financial institutions.

RECENT ISSUES

Table of Recent Issues for various stocks and bonds.

"RIGHTS" OFFERS

Table of Rights Offers for various companies.

IS THIS YOUR DAILY?

Every Monday: This Tuesday: Every Wednesday: This Thursday: Every Friday: Every Saturday: The Offshore Energy Page Special Survey on Sunderland and Bank Line Bankruptcy and Port Delays Special Report on Schleswig-Holstein The Freight Page Law Reports

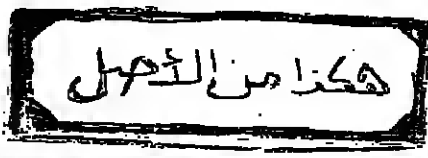
LLOYD'S LIST

Our Eurobanking Services

Advertisement for BADISCHE KOMMUNALE LANDESBANK INTERNATIONAL S.A. offering Money Market and Foreign Exchange services.

UNIT TRUST SERVICE

Advertisement for Offshore & Overseas Unit Trust Service, listing various investment funds and their details.



FT UNIT TRUST INFORMATION SERVICE

AUTHORISED UNIT TRUSTS

Table listing various unit trusts under the 'AUTHORISED UNIT TRUSTS' section, including names like Abbey Unit Tr. Mgrs. (a) and Allen Harvey & Ross Unit Tr. Mgrs.

Table listing discretionary unit fund managers, including names like Discretionary Unit Fund Managers and Merit Management Co. Ltd.

Table listing various unit trusts, including names like Merit Management Co. Ltd. and Target Tr. Mgrs. Ltd. (a).

Table listing unit trusts, including names like Commercial Union Group and Confederation Life Insurance Co.

Table listing unit trusts, including names like Garshore Insurance Co. Ltd. and General Portfolio Life Ins. Co. Ltd.

Table listing unit trusts, including names like Equify & Law Life Ass. Soc. Ltd. and Equify & Law (Managed Funds) Ltd.

Table listing unit trusts, including names like Equify & Law (Managed Funds) Ltd. and Equify & Law (Managed Funds) Ltd.

Table listing unit trusts, including names like Equify & Law (Managed Funds) Ltd. and Equify & Law (Managed Funds) Ltd.

Table listing unit trusts, including names like Equify & Law (Managed Funds) Ltd. and Equify & Law (Managed Funds) Ltd.

INSURANCE PROPERTY BONDS

Table listing insurance, property, and bond-related unit trusts, including names like Abbey Life Assurance Co. Ltd. and Hearts of Oak Benefit Society.

Table listing insurance, property, and bond-related unit trusts, including names like Hearts of Oak Benefit Society and Hills of Oak Life Assur. Ltd.

Table listing insurance, property, and bond-related unit trusts, including names like Hills of Oak Life Assur. Ltd. and Imperial Life Ass. Co. of Canada.

Table listing insurance, property, and bond-related unit trusts, including names like Imperial Life Ass. Co. of Canada and Irish Life Assurance Co. Ltd.

Table listing insurance, property, and bond-related unit trusts, including names like Irish Life Assurance Co. Ltd. and King & Shaxson Ltd.

OFFSHORE & OVERSEAS FUNDS

Table listing offshore and overseas funds, including names like Alexander Fund, Allen Harvey & Ross Unit Tr. Mgrs. (C.I.), and Bank of America International S.A.

Continued on previous page

INDUSTRIALS—Continued

Table of industrial stocks including companies like British Petroleum, Shell, and ICI, with columns for stock price, dividends, and other financial metrics.

INSURANCE—Continued

Table of insurance stocks including companies like Royal Indemnity, Commercial Union Assurance, and London & Lancashire.

PROPERTY—Continued

Table of property investment trusts including companies like British Property, British Land, and City of London.

INVESTMENT TRUSTS—Cont.

Table of investment trusts including companies like British Investment, British Venture, and British Overseas.

FINANCE, LAND—Continued

Table of finance and land stocks including companies like City of London, British Land, and British Property.

Stewart Wrightson International Insurance Brokers for the U.K. logo and contact information.

MINES—Continued

Table of mining stocks including companies like Anglo American, De Beers, and Anglo Coal.

COPPER

Table of copper stocks including companies like Anglo American and De Beers.

NOTES

Notes section providing additional information and disclaimers regarding the data presented in the tables.

LEISURE

Table of leisure stocks including companies like British Leisure, British Leisure, and British Leisure.

MOTORS, AIRCRAFT TRADES

Table of motor and aircraft trade stocks including companies like British Leyland, British Leyland, and British Leyland.

COMMERCIAL VEHICLES

Table of commercial vehicle stocks including companies like British Leyland, British Leyland, and British Leyland.

GARAGES AND DISTRIBUTORS

Table of garage and distributor stocks including companies like British Leyland, British Leyland, and British Leyland.

NEWSPAPERS, PUBLISHERS

Table of newspaper and publisher stocks including companies like British Newspapers, British Newspapers, and British Newspapers.

PAPER, PRINTING ADVERTISING

Table of paper, printing, and advertising stocks including companies like British Paper, British Paper, and British Paper.

SHIPPING

Table of shipping stocks including companies like British Shipping, British Shipping, and British Shipping.

SHOES AND LEATHER

Table of shoes and leather stocks including companies like British Shoes, British Shoes, and British Shoes.

SOUTH AFRICANS

Table of South African stocks including companies like Anglo American, Anglo American, and Anglo American.

TEXTILES

Table of textile stocks including companies like British Textiles, British Textiles, and British Textiles.

PROPERTY

Table of property stocks including companies like British Property, British Property, and British Property.

TRUSTS, FINANCE, LAND

Table of trusts, finance, and land stocks including companies like British Trusts, British Trusts, and British Trusts.

INSURANCE

Table of insurance stocks including companies like British Insurance, British Insurance, and British Insurance.

OILS

Table of oil stocks including companies like Anglo Oil, Anglo Oil, and Anglo Oil.

OVERSEAS TRADERS

Table of overseas trader stocks including companies like British Overseas, British Overseas, and British Overseas.

RUBBERS AND SISALS

Table of rubber and sisal stocks including companies like British Rubbers, British Rubbers, and British Rubbers.

TEAS

Table of tea stocks including companies like British Teas, British Teas, and British Teas.

INDIA AND BANGLADESH

Table of India and Bangladesh stocks including companies like British India, British India, and British India.

AFRICA

Table of African stocks including companies like British Africa, British Africa, and British Africa.

MINES

Table of mining stocks including companies like Anglo American, Anglo American, and Anglo American.

EASTERN RAND

Table of Eastern Rand stocks including companies like Anglo American, Anglo American, and Anglo American.

FAR WEST RAND

Table of Far West Rand stocks including companies like Anglo American, Anglo American, and Anglo American.

FINANCE

Table of finance stocks including companies like British Finance, British Finance, and British Finance.

FINANCE, LAND, etc.

Table of finance, land, and other stocks including companies like British Finance, British Finance, and British Finance.

FINANCE

Table of finance stocks including companies like British Finance, British Finance, and British Finance.

FINANCE

Table of finance stocks including companies like British Finance, British Finance, and British Finance.

FINANCE

Table of finance stocks including companies like British Finance, British Finance, and British Finance.

FINANCE

Table of finance stocks including companies like British Finance, British Finance, and British Finance.

FINANCE

Table of finance stocks including companies like British Finance, British Finance, and British Finance.

FINANCE

Table of finance stocks including companies like British Finance, British Finance, and British Finance.

FINANCE

Table of finance stocks including companies like British Finance, British Finance, and British Finance.

REGIONAL MARKETS

Table of regional market data including various regional indices and stock prices.

OPTIONS

Table of options data including various option contracts and their prices.

DIAMOND AND PLATINUM

Table of diamond and platinum stocks including companies like British Diamonds, British Diamonds, and British Diamonds.

Bain Daves A worldwide insurance broking service

SKIPTON BUILDING SOCIETY

Bid to avert row over NEB and Rolls

By John Elliott, Industrial Editor SENIOR MINISTERS are about to mount a concerted effort to solve the row over the National Enterprise Board's ownership of Rolls-Royce after being warned by leaders on both sides of industry that the issue could lead to a serious rift between the TUC and the Government.

This followed Mr. Len Murray, TUC general secretary, contacting Sir John Mervin, CBI director-general to discuss the potential problems if the Government removed Rolls-Royce from the NEB and the NEB's board members then resigned.

They know that the labour law proposals now being drafted to a Bill will lead to a clash with the unions, and do not want to complicate matters at this stage with other problems.

It is thought that the agreement manufacturers' results for the current full year will be considerably worse than the relatively small £7m loss it reported to the first half.

The Government became concerned about Rolls-Royce problems shortly after the General Election and re-examined plans discussed a year or so earlier for forging a link between the company and GEC.

Labour law Bill plans toned down

By Christian Tyler, Labour Editor PRESSURE WITHIN the Conservative Party for a much tougher line against trade union activity is being resisted by senior Ministers.

It now looks almost certain that no attempt will be made in the labour law Bill, due before Christmas, to narrow the historic immunities from civil prosecution enjoyed by trade unions when taking industrial action.

The Conservative trade unions representatives had voted overwhelmingly for an amended motion whose aim was to persuade the Government to make secret ballots compulsory.

Rhodesian troops cut Zambian rail link

By OUR FOREIGN STAFF

LANDLOCKED Zambia's only remaining rail link to the coast was cut early yesterday when Rhodesian troops destroyed a bridge on the southern route vital to its economic survival.

The raid, which has not yet been officially acknowledged in Salisbury, came in spite of all-party agreement on pre-independence arrangements at the Lancaster House conference on Rhodesia. This allowed delegates to begin discussions on a ceasefire in the guerrilla war.

Closure of the line could have serious consequences for Zaire, which uses the route for two-thirds of its copper exports and brings in coal, mining supplies and food from Rhodesia and South Africa.

NEB may choose Shotton as site for titanium plant

By JOHN ELLIOTT, INDUSTRIAL EDITOR

SHOTTON STEELWORKS in North Wales, which faces imminent closure, may be chosen by the National Enterprise Board as the site for a £20m to £30m titanium plant.

It has emerged as the favourite among four old steelworking sites being studied by the NEB, which has abandoned its plans to build the plant on a green field site owned by the British Steel Corporation in Hartlepool.

The other sites are Corby, a second site in Hartlepool and a further North-East steelworks. But Shotton is thought to have special advantages, which include good railway and road communications, docks and efficient disposal.

Treasury's economic forecasting role in policy-making defended

By PETER RIDDELL, ECONOMICS CORRESPONDENT

THE ROLE of economic forecasting and medium-term analysis in policy-making has been defended by Sir Douglas Wass, the Permanent Secretary to the Treasury, following recent political scepticism about its value.

His remarks, in a private speech last week to the Society of Long-Range Planners, came while the work of the Treasury's large forecasting side is being re-examined at the request of Ministers.

The speech, shown to the Chancellor before delivery, is carefully worded, partly to avoid the controversy which followed Sir Douglas's last speech on economic management in February 1978.

Foreign exchange reform planned

By MICHAEL LAFFERTY, BANKING CORRESPONDENT

BANKS operating in London will be able to deal directly with each other for all foreign exchange from January under a deal in an advanced stage of negotiation with money brokers and the Bank of England.

Ulster plan for Commons tomorrow

By STEWART DALBY

MR HUMPHREY ATKINS, the Northern Ireland Secretary, is expected to put his promised consultative document on devolution policy in Ulster before Parliament tomorrow.

The report is understood to contain about six different proposals for discussion at the Government's proposed conference on Northern Ireland, which is expected to start in the first week of December.

The proposals exclude the two extreme alternatives of the reunification of the two parts of Ireland and independence for Ulster.

She seems to be hoping that the Government will be able to overcome the problems in the Province which have defeated other attempts in the same way that it has managed to get nearer to a solution in Rhodesia than any of its predecessors.

Mr. Douglas noted that there is no legal compulsion to publish medium-term assessments, and he added that if Parliament were to go down this path, we would, I think, have to reflect a good deal on how we should present our work.

Weather

UK TODAY DRY and bright at first. Cloudy with occasional rain later.

W. Midlands, N.W. England, S.W. Scotland Cloudy and dry at first. Rain later. Max. 9C (48F).

S.W. England, Wales Occasional rain. Drier later. Max. 10C (50F).

Ile of Man, Argyll, N.W. England, Ulster Cloudy with rain. Becoming drier. Max. 9C (48F).

Cent. N. England, Borders, Aberdeens, Glasgow, Cent. Highlands, N.E. Scotland Dry and bright. Rain later. Max. 9C (47F).

Outlook: Mild in the South. Cloudy with rain in the North and West.

A safety net for share prices

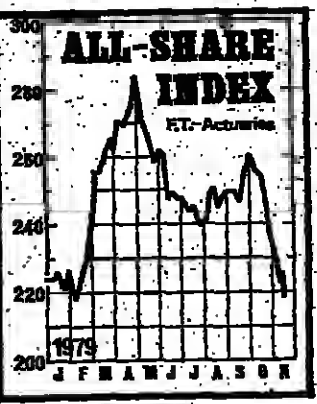
The FT 30-Share Index has now tumbled 27 per cent from the post-election high of 558.6, and dividend yields look very high measured against past levels.

By the end of last week the historic yield of the 30-Share Index was around 8 per cent, while the All-Share yield had nudged above 7 per cent.

Yields are as high as this for two major reasons: Nominal returns on gilt-edged stock have moved up to levels not seen for three years, and there is a growing feeling that after the exceptional 1978 dividend increases have been paid, next year's company profits will not allow further improvement on any scale.

It is possible that some companies in the more vulnerable sectors will find that even this manoeuvre will not enable them to hold their dividend payout next year.

All the same, total dividends are still expected to go up next year, though some estimates put the rise at little more than the 5 per cent recorded in 1979.



ALL-SHARE INDEX FT-30-Share Index

Interest rates Unless some very nasty shock is lying in wait for the gilt-edged market, the burst of funding carried out on Friday is inevitably going to lead to speculation about how soon interest rates can start to come down.

The precedents suggest that some lowering of the interest rate structure may come quite soon. Even when Minimum Lending Rate was linked to the Treasury Bill tender and the authorities were forced into heavy-handed penal lending to keep control, a decline in rates often set in soon after the immediate funding problem had been solved.

In the autumn of 1976, because of the steep fall of sterling, the gilt-edged market was unable to bid a secure base until two weeks after MLR had been raised to 15 per cent on the day that sterling traded at \$1.57, long yields touched 16 1/2 per cent (whereas now, with MLR at 17 per cent, they are barely at 15 per cent).

In February this year MLR was lowered by a point—and an official plea was made for interest rate stability—yet mere weeks after the Battle of Wapping Street, and only three weeks after it had been lifted to 14

per cent. Already the £710m call on Treasury 138 per cent 2000-03 on December 5 promises tight money markets, and heavy indulgence will come sooner if the £800m of Treasury 15 per cent 1985 is sold out on Thursday. So the Bank of England will have plenty of opportunity to signal its views by the manner in which it makes funds available to overcome the shortages.

Chrysler UK The latest financial data from Chrysler UK shows how perilous a path the company has to follow over the next two years. The taxpayers' handout under the 1978 agreement has disappeared almost without trace into a gaping hole in the profit and loss account, and the company now has to rely entirely on the continued support of its new owner, PSA Peugeot-Citroen.

In 1978, the UK company could easily lose £40m, of which £10m will be funded equally by the taxpayer and Peugeot through the final grant under the revised 1978 agreement. By now, the company has probably lost more than £50m of loans provided by the Government under the same agreement.

This year's losses will wipe out the remaining net assets in the business, which amounted to under £15m last December. At that time total debt was £147m, of which £102m was made up of bank loans and overdrafts—all guaranteed by Peugeot. Borrowings must be measurably higher now, and in the first six months of 1979 finance costs represented over 3 per cent of sales.

Peugeot's cash flow totals around £Fr 4bn a year, or about £450m, and its impressive reaction to the recent industrial unrest in the UK company has confirmed that it is not going to be panicked by financial pressures in the short term. It has already made it clear that 1980—rather than the current year—will be the decisive period for the future of the old Chrysler companies in Europe.

Metrica Plans by CRUSADER

Who are pleased to announce their new U.K. contracts. Crusader administer a large portfolio of U.K. and overseas group employee benefit schemes using an efficient computerised system keeping administration costs to a low level, thus enabling highly competitive rates to be offered.

Form for requesting information about Crusader Booklet, including fields for Name, Address, and company size.

Table with 3 columns: City, Day, and Temperature (C/F). Lists cities like Alaisiole, Algiers, Athens, etc., with their respective weather forecasts.